WASC Accreditation
Educational Effectiveness Review

Bachelor's in Electronic Cybernetics Engineering.
The program is currently offered in the following Campi:
Mexicali, Tijuana and Ensenada.

Last Program Review: November 2007

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1. **Introduction.**

The Mission of the Bachelor's in Electronic Cybernetics Engineering Program is to generate highly qualified professionals whose applied knowledge in the areas of electronics, digital design and computing technology, provide innovative, sustainable and efficient solutions to industry needs, by integrating computer systems for automated process control and networking applications.

The Vision of the Bachelor's in Electronic Cybernetics Engineering Program is be the primary source in the region for professionals that provide innovative solutions that require the use and integration of electronics, digital design and computing technology for automated process control and networking applications.

The Bachelor's in Electronic Cybernetics Engineering Program was launched in the Mexicali Campus in 1984, in the Tijuana Campus in 2004, and in the Ensenada Campus in 1995. Since 1984, it has undergone 4 major reviews, in 1992, 2000, 2004, and 2007. The total number of alumni for the program, for the Mexicali Campus is around 250, for the Tijuana Campus there are not graduates yet, and for the Ensenada Campus around 40.

Some significant achievements relating to the Bachelor's in Electronic Cybernetics Engineering Program are:

- The program received the accreditation by CACEI in October of 2006.
- Alumni were involved in the design, integration and deployment of the technology required for the C4 Center, which manages all emergency services communications requirements for Baja California, i.e. police, firefighters, medical services, etc. The services can be used via the 066 emergency phone service (equivalent to 911 I the United States). This communications infrastructure is highly integrated and recognized nationally as the first of its kind that has been implemented in México.
- Alumni have been involved in the design, integration and deployment of network and computer systems for the government, and local industry like Kenworth, Sony, Telcel, Telnor, to name a few.
- Alumni have been involved in the design, integration and deployment of automated process control systems that involve robotics, programmable controllers, electronic design and virtual instrumentation, in local industries like Kenworth, Mitsubishi, Ascotech, Amphenol, Cardinal Health, Samsung, to name a few.
- Alumni have gone abroad to study Master's and PHD's and have obtained their degrees from Higher Education Institutions in such countries as the United States, United Kingdom, Spain and Switzerland.
- Alumni that have obtained their Master's and PHD's abroad are currently working for research institutions like the ETH in Switzerland and others in countries like the United States and Spain.
- Students have constantly achieved high scores and received merit diplomas from CENEVAL for their achievement in the EGEL examination.
- Students have constantly obtained positive results in scholarship programs offered by institutions outside CETYS like Samsung, Televisa, Kenworth, Santander to name a few.
- Students have constantly gone abroad in various Student Exchange Programs offered via CETYS University's International Exchange Program, to such countries as the United States, Germany, France and Spain and also have participated in other international programs in Australia as part of the Espacio Vanguardia Scholars Program offered by Televisa.
- Approximately 7 out of 10 students are working in a professional practice program in local industry by their 6th semester (out of 8 semesters) and approximately 9 out of 10 students are employed full time by the time they finish their studies (8th semester).
- Full time faculty of the program are actively involved in linkage with industry, i.e National Instruments (Dr. Carlos Fuentes), consulting and training for local companies like Honeywell, Skyworks, Sony (M.S. Cristóbal Capiz), as well as institutions abroad like ETH in Switzerland (M.S. Jorge Sosa López) to name a few.
- The first book published by the CETYS University Editorial Project is "*Sistemas de Control Secuencial y Fundamentos de PLCs*" ("Sequential Control Systems and PLC Fundamentals") by full-time faculty M.S. Jorge Sosa López.

2. Denomination and description of the academic program.

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

a) Digital Design (Digital Electronics, Computer Architecture, Microprocessor Based Design, Interface Design): Focus on design and integration of digital electronics systems based on computers, for solutions that require computing technology and computer interfacing with external processes and systems.
b) Automated Process Control (Control Systems, Mechatronics): Focus on the design and integration of computer systems for automated process control.
c) Networking (Operating Systems, Computer Networks): Focus on the design and integration of computer systems for networking applications.
d) Electronics (Electrical Circuits, Analog Electronics, Power Electronics): Focus on electronic circuit designs that support applications for computer interfacing, automated process control and networking.

Also, as part of the 2007 program review, the following Complementary Areas of Knowledge have been added, also known as Complementary Formation Lines, or the Emphasis options of the program:

a) Microelectronics and Semiconductors (Semiconductor Physics, Analog and Digital IC Design, etc.): Focus on IC design and manufacturing processes.
b) Robotics and Industrial Automation (Robotics, Programmable Controllers, etc.): Focus on robotics and automation for industry.
c) Bioengineering (Nanotechnology, Biomedical Instrumentation): Focus on systems for biomedical applications that involve electronics, instrumentation and computing technology.

To obtain the degree, a student must complete the following requirements:

- Accreditation of 42 courses (totaling 328 credits) for the 2004 programs and 42 courses plus 4 additional Complementary Formation Line courses (totaling 360 credits) for the 2007 programs.
- Completing 400 hours of professional practice.
- Completing 500 hours of social service.
- Completing the corresponding EGEL examination administered by CENEVAL.
- 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.:

- M.S. Jorge Sosa López – Mexicali Campus.
- Dr. Moisés Sánchez – Tijuana Campus
- Dr. Carlos Fuentes – Ensenada Campus.

The Faculty that are associated with the program, and who are members of the Academy of Electronic Cybernetics Engineering are:

- M.S. Jorge Sosa López – Mexicali Campus
- M.S. Cristóbal Capiz – Mexicali Campus
- M.S. Héctor Barajas – Mexicali Campus
- M.S. Adolfo Esquivel – Tijuana Campus
- M.S. Ennelson Castro – Tijuana Campus
- Dr. Moisés Sánchez – Tijuana Campus
- Dr. Carlos Fuentes – Ensenada Campus

The students of the program are full time, primarily male and the proportion of local to out of state students is about 3 to 1 and most of the students receive some sort of financial aid, the primary one being the Pro-Engineering scholarship.

The program, has significant participation from professors that are not from CETYS, including foreign professors. Since last year, the program has had the participation of at least one foreign professor per year, from such places as the University of South Florida and the Veracruzana University.

The program currently has the following laboratories by campus:

- Mexicali: Physics, General Electronics, Advanced Computing and Electronics, Mechatronics, Networks and Operating Systems.
- Tijuana: Physics, General Electronics, Advanced Computing and Electronics, Mechatronics, Networks and Operating Systems.
- Ensenada: Physics, General Electronics, Advanced Computing and Electronics, Mechatronics, Networks and Operating Systems.

Student population - Mexicali			
Semesters	**Male**	**Female**	**Total**
1 and 2	17	2	19
3 and 4	18	0	18
5 and 6	12	2	14
7 and 8	33	3	36
Total	80	7	87
Percentage	91.9%	8.1%	100%

Student population - Tijuana			
Semesters	**Male**	**Female**	**Total**
1 and 2	1	0	1
3 and 4	5	3	8
5 and 6	18	2	20
7 and 8	12	1	13
Total	36	6	42
Percentage	85.7%	14.3%	100%

Student population - Ensenada			
Semesters	**Male**	**Female**	**Total**
1 and 2	3	0	3
3 and 4	5	2	7
5 and 6	11	0	11
7 and 8	4	1	5
Total	23	3	26
Percentage	88.4%	11.6%	100%

August – December 2007 (SIA-CETYS)

3. Educational Objectives of the academic program.

The Educational Objectives that the Academy of Electronic Cybernetics Engineering have established for the Bachelor's in Electronic Cybernetics Engineering are the following:

- The alumni of this program will work in projects involving the design and integration of solutions involving computer systems, electronics, digital design, automated process control and networking technologies for applications in local industry.
- The alumni of this program will be a project leader for projects involving the design and integration of solutions involving computer systems, electronics, digital design, automated process control and networking technologies for applications in local industry.
- The alumni from this program will be able to do consulting projects in the areas of computer systems, electronics, digital design, automated process control and networking.
- 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 Electronic Cybernetics Engineering have established for the Bachelor's in Electronic Cybernetics Engineering are grouped into 3 that correspond to the Professional Formation Lines and 1 for each of the 3 Complementary Formation Lines or Emphasis options of the program. These are:

The student of the Bachelor's in Electronic Cybernetics Engineering program will…

- SLO_ICE1: … design digital electronic systems, using hardware and software tools, to build solutions to engineering problems for diverse applications.
- SLO_ICE2: … solve engineering problems via the design and integration of electronics and computer systems and for automated process control applications.
- SLO_ICE3: … solve engineering problems via the design and integration of electronics and computer systems and for networking applications.

The student of the Bachelor's in Electronic Cybernetics Engineering with an Emphasis in Microelectronics and Semiconductors will…

- SLO_MSC: … design digital and analog integrated circuits, using hardware and software tools, for diverse applications.

The student of the Bachelor's in Electronic Cybernetics Engineering with an Emphasis in Robotics and Industrial Automation will…

- SLO_RIA: … design and integrate robotics and automation systems that involve electronics and computer systems for industrial applications.

The student of the Bachelor's in Electronic Cybernetics Engineering with an Emphasis in Bioengineering will…

- SLO_BIO: … design and integrate systems for biomedical applications that involve electronics and computer systems.

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_ICE1	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 Electronic Cybernetics Engineering.	Student Work and Final Projects from selected courses (i.e. Computer Architecture, Microprocessor Design, Interface Design, Control Systems, Mechatronics, Operating Systems, Applications of Computer Networks, Analog Electronics II, Power Electronics). Employer reports from professional practice and social service activities. EGEL Examination (Professional areas).
7	SLO_ICE2		
8	SLO_ICE3		
9	SLO_MSC	These outcomes have not yet been evaluated, and no evidence exists, however, the same type of rubrics developed for outcomes SLO_ICE1, SLO_ICE2 and SLO_ICE3, will be applied, and these will be developed by the Academy of Electronic Cybernetics Engineering.	No evidence exists.
10	SLO_RIA		
11	SLO_BIO		

The Academy of Electronic Cybernetics Engineering has the following members:

Name of the Academy or Faculty Coop: Academy of Electronic Cybernetics Engineering.				
#	**Name**	**Degree**	**Area of knowledge**	**Campus**
1	Jorge Sosa López	Master's in Science	Process Control	Mexicali
2	Cristóbal Capiz	Master's in Science	Digital Design	Mexicali
3	Héctor Barajas	Master's in Science	Networks	Mexicali
4	Adolfo Esquivel	Master's in Science	Electronics	Tijuana
5	Ennelson Castro	Master's in Science	Process Control	Tijuana
6	Moisés Sánchez	Doctorate	Networks	Tijuana
7	Carlos Fuentes	Doctorate	Process Control	Ensenada

5. Curriculum and faculty resources.

Bachelor's in Electronic Cybernetics Engineering											
Semester	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Full time faculty**		
									Name	**Degree**	**Area**
Fundamentals for Bachelor's in Engineering	MA400	MA401	MA402	MA407					Alfredo Rodriguez	M.A.	Math, Stat
	CC400	CC402	MA403	MA404	MA405				David Sánchez	B.E.	Math, Phis
		FI400	FI401	FI402					Salvador Baltazar	M.S.	Mah, Phis
		MC400							Susana Dominguez	M.S.	Math, Phis
									Jesús Sánchez	B.E.	Math
									Isaac Azuz	Dr.	Math, Stat
Professional Formation in Electronic Cybernetics Engineering	CE403	CE404	CE405	CE406	CC404	CE409	CE412	CC414	Jorge Sosa López	M.S.	Process Control
				CE407	CE408	CE410	Elective I	Elective II	Cristóbal Capiz	M.S.	Digital Design
					CC406		CE413	CE402	Jose Luis Arroyo	M.S.	Digital Design
						CE411	CE414	CE415	Héctor Barajas	M.S.	Networks
									Adolfo Esquivel		
									Ennelson Castro		
Complementary Formation or Emphasis Options					Emphasis Elective I (MSC, RIA, BIO)	Emphasis Elective II (MSC, RIA, BIO)	Emphasis Elective III (MSC, RIA, BIO)	Emphasis Elective IV (MSC, RIA, BIO)	Moises Sánchez	M.S.	Electronics
									Carlos Fuentes	M.S.	Process Control
										PhD.	Networks
										PhD.	Process Control
General and signature courses	CS401		CS400		ID400	CS402			Professors from Social Science Department.		
	EC400	CS403	CS404			HU400	HU400	HU402			

Legend for courses:

CODE	COURSE
MA400	Mathematics for University
CC400	Programming Methods I
MC400	Computer Aided Drawing
MA401	Differential Calculus
CC402	Programming Methods II
FI400	Physics I
MA402	Integral Calculus
FI401	Physics II
MA403	Numerical Methods
MA404	Probability
MA407	Differential Equations
FI402	Physics III
MA405	Statistical Inference
CE403	Introduction to Electronic Cybernetics
CE404	Digital Electronics I
CE405	Digital Electronics II
CE406	Computer Architecture
CE407	Electrical Circuits

CODE	COURSE
CC404	Data Structures
CC406	Operating Systems
CE408	Analog Electronics I
CE409	Microprocessor Design
CE410	Analog Electronics II
CE411	Control Systems
CE412	Interface Design
CE413	Computer Networks
CE414	Power Electronics
CC414	Selected Topics in Programming
CE402	Computer Network Applications
CE415	Mechatronics
	Elective I
	Elective II
	Emphasis Elective I (MSC, RIA, BIO)
	Emphasis Elective II (MSC, RIA, BIO)
	Emphasis Elective III (MSC, RIA, BIO)
	Emphasis Elective IV (MSC, RIA, BIO)

6. Curricular mapping.

			ENGINEERING BACHELOR'S PROGRAMS STUDENT LEARNING OUTCOMES				BACHELOR'S IN ELECTRONIC CYBERNETICS ENGINEERING STUDENT LEARNING OUTCOMES			EMPHASIS OPTIONS FOR BACHELOR'S IN ELECTRONIC CYBERNETICS ENGINEERING STUDENT LEARNING OUTCOMES		
CURRICULAR ELEMENTS			SLO_ENG1	SLO_ENG2	SLO_ENG3	SLO_ENG4	SLO_ICE1	SLO_ICE2	SLO_ICE3	SLO_MSC	SLO_RIA	SLO_BIO
CODE	COURSE	SEMESTER	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL
MA400	Mathematics for University	1	SU	SU								
CC400	Programming Methods I	1	SU	SU	SU							
MC400	Computer Aided Drawing	1	SU	SU	SU							
MA401	Differential Calculus	1	SU	SU								
CC402	Programming Methods II	2	SU	SU	SU	SU						
FI400	Physics I	2	SU	SU	SU							
MA402	Integral Calculus	2	ME	SU								
FI401	Physics II	3	ME	SU	SU			SU				
MA403	Numerical Methods	3	ME	SU	ME							
MA404	Probability	3	ME	SU								
MA407	Differential Equations	4	ME	SU				SU				
FI402	Physics III	4	ME	SU	SU	SU	SU	SU	SU			
MA405	Statistical Inference	5	ME	ME	ME	ME			SU			
CE403	Introduction to Electronic Cybernetics	1					SU	SU	SU	SU	SU	SU
CE404	Digital Electronics I	2			SU		SU			SU		
CE405	Digital Electronics II	3	SU	SU	SU		SU			SU		
CE406	Computer Architecture	4			SU	SU	ME	ME	ME	SU		
CE407	Electrical Circuits	4	SU		SU		SU	SU	SU	SU		
CC404	Data Structures	5			ME	SU	SU		SU			
CC406	Operating Systems	5	ME	ME	ME	SU			ME			
CE408	Analog Electronics I	5	ME		ME		SU	SU	SU	SU	SU	SU
CE409	Microprocessor Design	6		ME	ME	ME	ME	ME		SU	SU	SU
CE410	Analog Electronics II	6	ME	ME	ME	ME	ME	ME	ME	SU	SU	SU
CE411	Control Systems	6	ME	ME	ME	ME	SO	SO		SU	SU	SU
CE412	Interface Design	7		ME	SO	SO	SO	SO		SU	SU	SU
CE413	Computer Networks	7		ME	ME				ME			
CE414	Power Electronics	7		SO	ME		SO	SO		SU	SU	
CC414	Selected Topics in Programming	8		SO	SO	SO	SO	SO	SO	SU	SU	SU
CE402	Computer Network Applications	8		SO	SO	SO			SO			
CE415	Mechatronics	8	SO	SO	SO	SO			SO		SU	SU
	Elective I	7	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU	SU	SU
	Elective II	8	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU	SU	SU
	Emphasis Elective I (MSC, RIA, BIO)	5	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	ME	ME	ME	ME	ME	ME
	Emphasis Elective II (MSC, RIA, BIO)	6	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	ME	ME	ME	ME	ME	ME
	Emphasis Elective III (MSC, RIA, BIO)	7	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SO	SO	SO	SO	SO	SO
	Emphasis Elective IV (MSC, RIA, BIO)	8	SU, ME, SO	SU, ME, SO	SU, ME, SO	SU, ME, SO	SO	SO	SO	SO	SO	SO
CO-CORRICULAR ELEMENTS		SEMESTERS	LEVEL	LEVEL	LEVEL	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	SU, ME, SO	SU, ME, SO	SU, ME, SO
CETYS University College of Enginerering Simposiums in each Campus		1,3,5,7	SU	SU	SU	SU, ME, SO	SU	SU	SU	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	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	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	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	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	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	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:

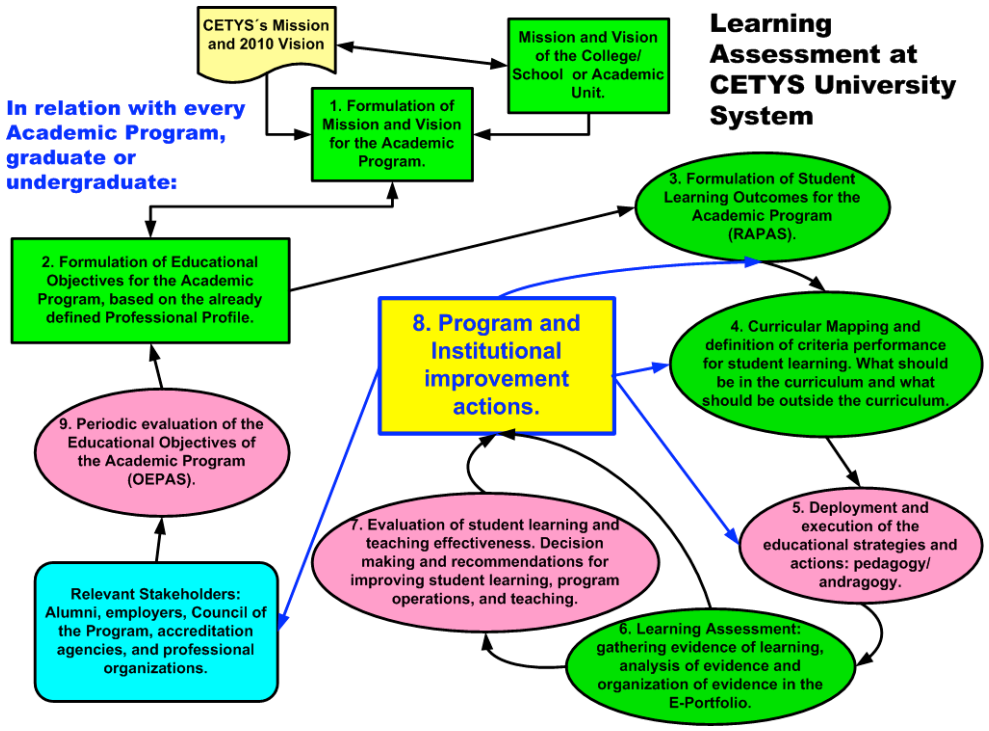
Engineering Bachelor's Programs. The student of a CETYS University Bachelor's in Engineering Program will…	**Bachelor's in Electronic Cybernetics Engineering** The student of the Bachelor's in Electronic Cybernetics Engineering program will…	**Emphasis Options for Bachelor's in Electronic Cybernetics Engineering**
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_ICE1**: … design digital electronic systems, using hardware and software tools, to build solutions to engineering problems for diverse applications.	The student of the Bachelor's in Electronic Cybernetics Engineering with an Emphasis in Microelectronics and Semiconductors will… **SLO_MSC**: … design digital and analog integrated circuits, using hardware and software tools, for diverse applications.
SLO_ENG2: …design analytic and functional models, quantitatively and qualitatively, for the analysis and improvement of systems for diverse applications.	**SLO_ICE2**: … solve engineering problems via the design and integration of electronics and computer systems and for automated process control applications.	The student of the Bachelor's in Electronic Cybernetics Engineering with an Emphasis in Robotics and Industrial Automation will… **SLO_RIA**: … design and integrate robotics and automation systems that involve electronics and computer systems for industrial applications.
SLO_ENG3: … effectively use software tools and technologies to build solutions to engineering problems.	**SLO_ICE3**: … solve engineering problems via the design and integration of electronics and computer systems and for networking applications.	The student of the Bachelor's in Electronic Cybernetics Engineering with an Emphasis in Bioengineering will… **SLO_BIO**: … design and integrate systems for biomedical applications that involve electronics and computer systems.
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 Electronic Cybernetics Engineering Program, with the participation of faculty members from the Academy of Electronic Cybernetics Engineering:

1) Formulation of the Mission and Vision.
2) Formulation of the Educational Objectives.
3) Formulation of Student Learning Outcomes.
4) Curricular Mapping.
5) Identification of key courses where evidence of student learning can be gathered.

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) Systematic gathering of evidence of learning and the analysis and organization of the evidence.

However, the process of developing the Mission, Vision, Educational Objectives, Student Learning Outcomes and Curricular Mapping, has created an ongoing discussion by the faculty members of the Academy of Electronic Cybernetics Engineering, in which some key issues have been identified, which should be addressed within the assessment cycle and also during program review, such as:

1. The way the program is perceived, offered and managed in each of the three campuses.
2. The number of course currently in the curriculum and the coverage that they have with relation to the student learning outcomes.
3. The emphasis options for this program, specifically with regards to their deployment and the required resources.