CETYS University System.
Summary of the Distinctive Elements of CETYS University Education.
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Introduction:
According to CETYS 2020 Plan, the Distinctive Elements of CETYS Education (EDEC for its acronym in Spanish) are the following:

1) Entrepreneurship and innovation
2) Linkage
3) Internationalization
4) Culture of information
5) Social responsibility
6) Sustainability

This document summarizes the following concepts for each EDEC:

- Definition.
- Learning outcome or competency that the student must achieve.
- Direct and indirect learning assessment instruments.
- Subjects of each level where the learning outcome was mapped.

(1) Entrepreneurship and innovation (EMPEI for its acronym in Spanish).
(1.1) Definition.
It is a process of education of change agents who are capable of participating in an innovative way in the creation and improvement of social value in the different sectors of society. This process is integrated by a set of educational experiences that are organized in the High School and Higher Education curriculums, which will gradually take the students to different degrees of learning that go from knowing and understanding entrepreneurial and innovation concepts, to formulating and evaluating concrete projects for the creation of social and economic value in specific sectors of the community, and finally to assume an entrepreneurial attitude as a way of life.
Innovation:
Innovation is defined as the generation or adaptation of new ideas, materials, practices, etc. that become real through practice or circulation and represent a change in the person, group or organization that produce them, and a benefit for them and the users of the novelty (Roca, 1996).
Innovation is closely linked to creativity. Creativity as an ability to create, to do something from nothing, establish a society or juridical entity or create an artistic or intellectual work. Amabile (1989) defines it in the following way: Creativity is the production of novel and useful ideas by an individual or small group working together.

(1.2) Learning outcome/competency.
By the end of the High School, Undergraduate or Postgraduate program, the student will **evaluate** the importance of being a change agent in society, to contribute to the development and well-being of their community.
Subjects of each educational level where knowledge of EDECs will be encouraged.

(1.3) Learning assessment instruments.
The learning assessment instruments defined for this EDEC are direct and use of the 7 rubrics.

(1.4) Subjects of each level where the learning outcome has been mapped.
Tables 1.1 to 1.3 show the subjects where EMPEI learning outcome is mapped.

Table 1.1. EMPEI subjects in High School Education.

SUBJECT	Semester	Learning Outcome	Evidence of the achieved learning	Learning assessment instrument
Community Entrepreneurial Development I	Third	The student will **design** a Preliminary project to benefit the community.	Written report of the Preliminary project.	Rubric 1
Community Entrepreneurial Development II	Fourth	The student will **implement** an entrepreneurial project to benefit the community.	Portfolio of project implementation evidence.	Rubric 2
Community Entrepreneurial Development III	Fifth	The student will **value** entrepreneurship as an alternative to improve their environment.	Final report of a company created by young entrepreneurs.	Rubric 3
Community Entrepreneurial Development IV	Sixth	The student will **analyze** with entrepreneurial vision the functioning of a non-profit organization and will **propose improvement strategies** that can be implemented to improve their development and achievement of their social commitment.	Evidence portfolio	Rubric 4

Table 1.2. EMPEI Subjects in Higher Education: Undergraduate.

SUBJECT	Semester	Learning Outcome	Evidence of the achieved learning	Learning assessment instrument
Phase I: Globalization and Economic Development	First	The student will be able to **develop proposals** for improvement of the current issues of their environment.	Written report of the Preliminary project.	Rubric 1
Phase II: College of Business and	Third / fourth	The student will **develop the skills**	Final project	Rubric 5

Administration • **Bachelor in Business Administration:** Administration of SMEs and franchises. • **Bachelor in Marketing Management:** Integrated Marketing Communication • **Public International Accountant, Bachelor in International Business and Bachelor in Graphic Design:** Marketing management Engineering College • **Electronic Cybernetics Engineering:** Computer Architecture • **Computer Science Engineering:** Computer Aided Control • **Digital Graphic Design Engineering:** Computer Systems and Components • **Industrial Engineering:** Industrial Administration • **Mechanical Engineering, Mechatronic Engineering:** Computer Aided Fabrication		necessary to generate ideas, detect opportunities, create, plan and develop innovative entrepreneurial projects, and their marketing.		
Phase III **College of Business and Administration:** • **Bachelor in Business Administration, Public International Accountant, Bachelor in Marketing Management, Bachelor in International Business:** Development of Entrepreneurs • **Bachelor in Graphic Design:** Visual Communication Business Management **College of Humanities** • The Dean of the College decided not to participate in this phase.	Fifth / sixth	The student will **create** a business project in their area of expertise in each program, which will have to be carried out with innovation and entrepreneurship characteristics.	Business plan	Rubric 6

College of Engineering • **Electronic Cybernetics Engineering:** Design with microprocessors • **Computer Science Engineering:** Information Systems analysis and design • **Digital Graphic Design Engineering:** Electronic media design • **Industrial Engineering:** Quality Engineering I • **Mechanical Engineering:** Electro-pneumatic and Hydraulic Systems • **Mechatronic Engineering:** Industrial automation and robotics				
Phase IV: • **Bachelor in Business Administration and International Public Accountant:** Investment projects • **Bachelor in Marketing Management:** Marketing seminar • **Bachelor in International Business:** International investment projects • **Bachelor in Graphic Design:** Visual Project Management **College of Humanities** • The Dean of the College decided not to participate in this phase. **College of Engineering** • **Electronic Cybernetics Engineering:** Interphase design • **Computer Science Engineering:** Compiler design • **Digital Graphic Design Engineering:** Electronic media design • **Industrial Engineering:** Experiment design	Seventh / eighth	The student will **evaluate** the importance of being a change agent in society, to contribute to the development and well-being of their community.	Essay	Rubric 7

• **Mechanical Engineering:** Design engineering • **Mechatronic Engineering:** Modeling mechatronic prototypes				

Table 1.3. EMPEI Subjects in Higher Education: Postgraduate.

Subject	Trimester	Learning Outcome	Evidence of the learning achieved	Learning assessment instrument
Entrepreneurial Development (Concentration in Senior Management)	Once a year in the semester where it is scheduled, in each campus.	The student will **create** a project in their area of expertise that must be carried out with innovation and entrepreneurship characteristics.	Evidence portfolio	Rubric 5
Transcultural Administration (Concentration in Human Resources)	Once a year in the semester where it is scheduled, in each campus.	The student will be able to **develop proposals** for improvement of the current issues of their environment.	Written report	Rubric 5
Market Research (Concentration in Marketing)	Once a year in the semester where it is scheduled, in each campus.	The student will **create** a project in their area of expertise that must be carried out with innovation and entrepreneurship characteristics.	Evidence portfolio	Rubric 5
Creation and Evaluation of Investment Projects (Concentration in Finance)	Once a year in the semester where it is scheduled, in each campus.	The student will **create** a project in their area of expertise that must be carried out with innovation and entrepreneurship characteristics.	Evidence portfolio	Rubric 5
Marketing Management (General Education)	Trimesters 2 and 4 in the three campuses.	The student will **develop the skills** necessary to generate ideas, detect opportunities, create, plan and develop innovative entrepreneurial projects, and their marketing.	Final project	Rubric 1

(2) Internationalization.

(2.1) Definition.

"Internationalization seeks to achieve the development of significant learning in the students within an international, global and diversity context that contributes to their personal and academic education so that they can be successful in their personal and professional lives in an increasingly global environment. It

refers to education with an international profile, with a comprehensive and inclusive focus that promotes the education of students who contribute to the economic, science, technological and cultural development with a global perspective."

Internationalization is comprised by three main blocks:

I. **Curriculum:** In the structure of the program, laid out through the subjects that contribute to the comprehensive education of the student. This happens through subjects taught in English, invited professors, study trips, and certificate programs with international educational institutions.
II. **Mobility:** Through student exchange programs, certificates and short courses at international educational institutions where students live an international experience for a defined period of time, having the opportunity to know and apply new technologies, as well as experiencing new ways of teaching in the international environment.
III. **International presence:** Participating as ambassadors in activities and events at an international level, such as Symposiums, Conferences and professional internships at international organizations.

(2.2) Learning outcomes/competency.
"By the end of the academic program, the student will be able to analyze concepts and theories of international importance that contribute to the development and implementation of programs or projects with global impact. Students will also be capable of expressing their ideas clearly and with an appropriate language in oral, written or visual form in English or other languages".

(2.3) Learning assessment instruments.
The learning outcome for the internationalization EDEC will be assessed through a rubric. This means that a direct instrument of learning assessment will be used. Such rubric can be found in the Internationalization Appendix.

(2.4) Subjects of each level where the learning outcome has been mapped.
Tables 3.1 to 3.5 show the subjects where learning assessment of the internationalization EDEC is mapped.

Table 2.1: Subjects of the Internationalization EDEC for High School.

Semester	Code	General	Code	Bilingual	Code	International
Fifth	PLA24	Language additional to Spanish V	PLA24	Language additional to Spanish V	PLA24	Language additional to Spanish V
Sexto	PLA25	Language additional to Spanish VI	PLA25	Language additional to Spanish VI	PLA25	Language additional to Spanish VI

Table 2.2: Subjects of the Internationalization EDEC for Higher Education: Business and Administration Undergraduate Programs.

Semester	Subjects				
First to fourth	**Business Management**	**Marketing Management**	**International Public Accountant**	**International Business**	**Graphic Design**
	Financial Analysis				Advanced

	Globalization and Economic Development				communication in English
Fifth to eighth	Advanced Communication in English	Marketing Seminar	Audit	Entrepreneurial International Commerce	Brand image
		Marketing Strategies	International Law and Customs	International Business Seminar	Corporate image
	Senior Management Seminar		International Fiscal Legislation		Globalization and Economic Development
		Advanced Communication in English	International Finance		
		International Marketing	Advanced Communication in English	International Business Project	
				Advanced Communication in English	

Table 2.3: Internationalization EDEC subjects for Higher Education: Social Science and Humanities Undergraduate Programs.

Semester	**Subjects**	
Third	**Psychology**	**Law**
	Advanced Communication in English	
	Culture II	
Fifth	Globalization and Economic Development	
Sixth		Public and Private International Law
Seventh		Customs and Foreign Trade Legislation
Eighth		Commercial Treaties and Agreements

Table 2.4: Internationalization EDEC subjects for Higher Education: Engineering Undergraduate Programs.

Semester	**Subjects**					
First	**Industrial Engineering**	**Mechanical Engineering**	**Electronic Cybernetics**	**Computer Science**	**Mechatronic Engineering**	**Digital Graphic Design**
	Globalization and Economic Development					
Tercero					Advanced Communication in English	
Fifth	Advanced Communication in English				Globalization and Economic	

					Development	
Sixth	Quality Engineering I					
Seventh		Automation and control			Programmable Controllers	
Eighth			Select Programming Topics			Strategic Business Development

Table 2.5: Internationalization EDEC subjects for Higher Education: Postgraduate Programs.				
Period	Master's Program			
	Master of Science in Engineering	**Master in Business Administration**	**Master in Psychology**	**Master of Education**
Indistinto	Project Management	Strategic Management	Transcultural Management	Integrative Seminar
		Transcultural Management		

(3) Culture of Information (CI).

(3.1) Definition.

Set of informational knowledge, principles and competencies required by CETYS community in the management, curricular design and learning processes to educate professionals capable of benefitting and contributing to the society of knowledge, that require supply and access capabilities, critical evaluation and effective use of informational resources through information technologies and communication.

(3.2) Learning outcome/competency

By the end of the academic program, the student will prove, through learning products, their skills to access, evaluate and use information with the support of traditional and technological resources to respond and resolve in a satisfactory way the needs and situations demanded according to their areas and level of education.

(3.3) Learning assessment instruments.

The learning assessment instrument will be a rubric under the format suggested in Stevens and Levi (2005), from the many possible ways to create rubrics. The performance levels that have been used for the learning assessment processes of this institution have been preserved: insufficient, sufficient, improvable and outstanding.

(3.4) Subjects of each level where the learning outcome has been mapped.

Tables 3.1 to 3.3 show the subjects where the learning outcome for the Culture of Information EDEC has been mapped.

Table 3.1: CI EDEC subjects for High School Education.			
Academic program	**Subject 1: start of the program**	**Subject 2: middle of the program**	**Subject 3: final stage of the program**
General and	Reading and Writing I	Biology I	Research Methodology

bilingual			
International	Reading and Writing I	History	Monograph III

Table 3.2: CI EDEC subjects for Higher Education: Undergraduate.

Academic program	Subject 1: start of the program	Subject 2: middle of the program	Subject 3: final stage of the program
Industrial Engineering	Introduction to Industrial Engineering	Industrial Management	Production Systems Engineering III
Electronic Cybernetics Engineering	Introduction to Electronic Cybernetics Engineering	Computer Architecture	Mechatronics
Computer Science Engineering	Introduction to Computer Science Engineering	Algorithm Analysis and Design	Artificial Intelligence
Mechatronic Engineering	Introduction to Mechatronic Engineering	Computer Aided Fabrication	Modeling of Mechatronic Prototypes
Digital Graphic Design Engineering	Introduction to Digital Graphic Design Engineering	Design Methodology	3D Animation
Mechanical Engineering	Introduction to Mechanical Engineering	Mechanics of Materials	Mechanical Experimental Analysis
Software Engineering	Introduction to Software Engineering	Software Engineering I	Information Technology Management
Bachelor in Law	Contemporary Legal Systems	Contracts	Tax and Administrative Procedure Law
Psychology	Human Processes	Social Research	Educational Technology
Bachelor in Marketing Management	Introduction to Marketing	Integrated Marketing Communication	Decision-making
Bachelor in International Business	Introduction to International Business	International Marketing	Business Seminar
Bachelor in Business Administration	Management	Management of Human Resources	Philosophy of Management
International Public Accountant	Management	Management of Human Resources	Management in Global Organizations
Bachelor in Graphic Design	Introduction to Design	Consumer Behavior	Multimedia
Bachelor in Business Management	Management	Research Methodology	Integrative Project

Table 3.3: CI EDEC subjects for Higher Education: Postgraduate.	
Area of Knowledge	**Subjects**
Engineering	Statistical Models Project Management
Education	Education for the XXI Century Integrative Seminar
Psychology	Research Methodology Integrative Seminar
Management	Financial Management Strategic Management

(4) Social Responsibility (SR).

(4.1) Definition.

According to the Mission, Vision and Educational Model of CETYS University, SR is defined as:

Set of efforts resulting from the free and active commitment of people to promote an equitable society. As a consequence, it refers to the attitudes manifested by a person or group of persons through concrete actions oriented toward improving the quality of life of the community. Thus, a socially responsible action:

- ✓ Arises from the recognition of a person's worth.
- ✓ Comes from contact with reality and reflection in a particular social, political and economic context.
- ✓ Seeks to benefit the most vulnerable population.
- ✓ Promotes social integration and cohesion processes.
- ✓ Contributes to a sustainable and supportive society.

(4.2) Learning outcome/competency.

By the end of the High School, Undergraduate and/or Postgraduate academic programs, graduates of CETYS University will **carry out social responsibility actions** individually or in groups, oriented to improve the quality of life of the community.

(4.3) Learning assessment instruments.

Competency achievement indicators:

1.- *Identify* the reality around them.
2.- *Define their cooperative intervention* in social impact projects.
3.- *Establish actions* that are feasible and coherent with the identified issue.
4.- *Evaluate the results* obtained after their intervention and *proposes* the following actions.

The previous indicators will be evaluated based on an analytical rubric.

(4.4) Subjects of each level where the learning outcome has been mapped.

The subjects of each educational level where the learning outcome for SR has been mapped are the following:

High School. Subjects: Community Entrepreneurial Development I, II, III, IV. From 3rd to 6th semester.

Undergraduate. Subjects: Human Being and the Environment (6th semester); Human Being, History and Society (6th and 7th semesters).

Postgraduate: Social Responsibility is mentioned in its obligatory nature in the introductory workshop for Postgraduate students and it is applied and evaluated in the following subjects:

MBA: Ethics and corporate values
MED: Education for the XXI century
ENG: Application project with a social responsibility focus
PSYCH: Social behavior seminar
LAW: Legal Deontology or Legal Framework of the Company
CRIM: Ethics and Human Rights Seminar

(5) Sustainability.

(5.1) Definition: Sustainability is a series of individual, institutional and social actions aimed to satisfy the current needs without compromising the ability of future generations to satisfy their own.

(5.2) Learning outcome: By the end of the academic program, the student will recognize the importance of sustainability as a development philosophy that integrates the environmental, economic and social parts in ah holistic way that improves the individual, professional and community quality of life through the efficient use of natural and energy resources, as well as in the responsible production and consumption of goods and services of daily use, among other factors.

(5.3) Learning Assessment Instruments.

This EDEC's learning assessment will be evaluated through a series of standardized tests that will be administered in each educational level of CETYS University, seeking to assess the progress of the students from the beginning to the end of their programs.

(5.4) Subjects selected for learning sustainability.

The following CETYS University subjects were identified as the ones where the Sustainability EDEC could be implemented in the most efficient and effective way:

Academic Level	**Name of the Subject**	**Name of the Unit**	**Time Scheduled**
High School	National High School: Ecology and the Environment	Unit 5: Applied Ecology	4 hrs.
	National High School: Environmental Systems	-It is one of the focus points of the program. Units 3.25; 3.26 and 3.27	4 hrs.
Higher Education: Undergraduate	Human Being and the Environment	Unit III: Environmental Education for Sustainable Development	20 hrs.
Higher Education: Postgraduate	**Name of the Subject**	**Name of the Unit**	**Time Scheduled**
Master of Business Administration and Engineering	Strategy and Competitiveness/Strategic Management	Strategic Leadership: Corporate Government and Social Responsibility	4 hrs.
Master's in Social Science and Humanities	Education for the XXI Century	Environmental Education for Sustainable Development	4 hrs.

	Environmental Law	Environmental Legislation	4 hrs.
All Master's programs	Integrative Seminar	N/A	4 hrs.

(6) Linkage.

(6.1) Definition of Linkage.

Linkage with the community is visualized as an **academic process** through which each undergraduate **student** will **develop specific professional competencies** through internships, professional practice and application projects, which will reflect on a **generic learning outcome** of all academic programs. Linkage is also seen as a way of connecting the professors of the institution with their **business and social environments (local and international),** looking to **generate value** consisting of solutions to the competitiveness problems and challenges of local companies and social organizations. This element will be operated in a **curricular way**, so the students will receive credits for the learning achieved and work done. The **"Centers for Excellence"** in each campus will be a means for students and professors to create links with companies and social and government organizations. In the case of High School Students, linkage with the community becomes significant when they identify their professional vocation and how it can generate value for their community.

(6.2) Learning outcome for the Linkage EDEC.

For Undergraduate and Postgraduate students:
Upon graduation, the student will evaluate how prepared they are for practicing their profession in the work field, and how professional practice contributed to their professional education and generating "value" for their community.

For High School Students:
Upon graduation, the student will evaluate how prepared they are to start the undergraduate program they chose and the value it has generated for their community.

(6.3) Learning assessment for the Linkage EDEC.

An analytic rubric will be used at all levels to assess learning of this EDEC.

(6.4) Subjects where the Linkage EDEC will be present.

High School: Community Entrepreneurial Development I, II, III, IV.

Undergraduate: Human Being and Society.
Postgraduate: Application Project and Integrative Seminar.