



Consejo Nacional de Acreditación en Informática y Computación, A.C.
Organismo acreditador con reconocimiento del COPAES

Self-evaluation form

Document prepared on the basis of
ACCREDITATION CRITERIA
Informatics and Computing Academic Programs
HIGHER EDUCATION
- BA Degree Level

Institution: _____

Campus: _____

Program Name (BA/Eng/TSU): _____

Profile (A/B/C/D): _____

Last Version: 2015

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GENERAL DATA.

**A1. TECHNICAL DATA SHEET
(INSTITUTION AND SCHOOL GENERAL DATA)**

Place and date of preparation	
--------------------------------------	--

INSTITUTION	
Name	
Mission	
Vision	
Policies	
Strategic Lines	

FACULTY, SCHOOL, DEPARTMENT OR DIVISION	
Name	
Campus	
Operations start date	
Mission	
Vision	
Strategic Objectives	

A2. TECHNICAL DATA SHEET (ACADEMIC PROGRAM GENERAL DATA)

ACADEMIC PROGRAM	
Name	
Official Creation Document*	
RVOE** Number	
RVOE** granting date	
Institution granting RVOE**	
Mission	
Vision	
Strategic Objectives	

* Public Institutions

**Private Institutions

Academic Program Faculty

Concept	Full time	Three-quarter time	Half time	Subject	Total	Studies degree						Total
						TSU	PA	L	E	MES	D	
Number												
Percentage												

Abbreviations: TSU - Senior University Technician / PA - Associate Professional/ L - Bachelor's degree/ E-specialty/ M - Master's Degree/ D - PhD.

Academic Program Registration Number

Generation	New admission			Re-admission*		Subtotal	Total		
	Men	Women	Subtotal	Men	Women		Men	Women	Addition
Last									
%									
Penultimate									
%									
Antepenultimate									
%									

*Note: It refers to students who temporarily left the program and were returning to it.

School performance rates of the past three generations of the academic program per generational cohort

Generation	Number of students admitted (1)	Dropout (2)	Dropout Rate (2)/(1)	Failure (3)	Failure Rate (3)/(1)	Graduate (4) = (1)-(2)-(3)	Graduate Efficiency Rate (4)/(1)	Degree Completed (5)	Degree Completion Rate (5)/(4)	Net Degree Completion Rate (5)/(1)
Last										
Penultimate										
Antepenultimate										

Faculty or school organization structure descriptive chart.

CATEGORIES, CRITERIA AND INDICATORS

1. Academic Staff¹

1.1 Recruitment. *To have a regulated procedure for the recruitment of academic staff, which involves the evaluation of their knowledge, experience and ability to exercise teaching (process to identify and attract qualified candidates to fill the vacancies).*

1.1.1 Is there a formal academic staff recruitment process? Yes No

If yes, describe in summary the most important aspects of the process.

• Are there academic staff recruitment regulations? Yes No

If yes, please provide a copy.

1.2 Selection. *To have a regulated procedure for the admission of academic staff, which involves the evaluation of their knowledge, experience and ability to exercise teaching (process to identify and attract qualified candidates to fill the vacancies).*

1.2.1 Is there a formal academic staff admission process? Yes No

If yes, describe in summary the most important aspects of the process.

• Are there academic staff admission regulations? Yes No

If yes, please provide a copy.

1.3 Hiring. *To have a regulated procedure for hiring academic staff, which involves the evaluation of their knowledge, experience and ability to exercise teaching (in accordance with the future work relationships law) and in order to follow up criterion 1.1.1.*

1.3.1 Is there a formal academic staff hiring process? Yes No

¹ **Academic Staff** Personnel performing teaching and research functions, as well as cultural dissemination and extension. Indistinct for face-to-face, mixed learning and e-learning.

If yes, describe in summary the most important aspects of the process.

- Are there academic staff hiring regulations? Yes No

If yes, please provide a copy.

1.4 Development. *To have an academic improvement continuous plan in which plans for the full-time academic staff that does not have a postgraduate to get it are implemented. The plan must be approved by the maximum personal or collegiate authority in the institution.*

- 1.4.1 Is there a permanent academic growth plan for full-time academic staff that is approved by the highest personal or collegiate authority in the institution? Yes No

If yes, please provide the following information.

Name of the growth program	Benefits for full-time academic staff

1.4.2 To have an update/training program that will enable the rapid response to emerging issues in the area, as well as to maintain the academic staff up-to-date.

- Are there programs in the institution, academic unit or career, for the upgrade and improvement of academic staff? Yes No

If yes, provide the following information for the past three years:

Name or description of the program or courses	Responsibility*	Last three years in which they were taught			Number of participants

- Is there any other modality of support academic staff for update and improvement? Yes No

If yes, please describe briefly:

1.4.3 There must be permanent training plans for professors².

- Is there a teacher training program?²: Yes No

If yes:

a. Point out responsibility held by:

Institution Academic Unit Program

b. Briefly describe how it works:

c. List some of the results obtained:

* Write in this column if the responsibility is institutional, of the academic unit, of the program, or external

² **Professors' training.** Díaz Barriga points out that teacher training can be seen from three different perspectives: the technological behaviorist one, which refers to media that support educational work; constructive perspective, focused on the subject and the personal quest for knowledge; and the reflective critical perspective, in which the teacher is self-critical of his/her work.

Study Categorization and level. *At least 50% of the professors³ that integrate the teaching staff must have an academic profile that corresponds to the area of knowledge to which they are assigned.*

1.5.1 Estimate the percentage of the professors that integrate the teaching staff who have an academic profile that corresponds to the area of knowledge to which they are assigned.

Explain how this estimation was performed.

1.5.2 The program must clearly specify the group of professors who participate in it and the time they dedicate, and it must have an up-to-date CV of each one of them, highlighting the outstanding aspects in regard to academic degrees obtained, professional and academic experience, publications, membership of scientific and/ or professional societies, awards and distinctions, etc.

- ***Professors assigned to the program: are those who have a full-time within the academic entity of the program, and that at least taught a course in it: either developing an academic activity clearly and directly linked with the program that represents at least a total of eight hours dedicated. For part-time professors the same criterion is applied (at least 8 hours), and per hour professors are considered as attached when they teach at least one course of the program.***

1.5.3 As a minimum, 50% of the total class hours shall be taught by full-time professors. It is not permissible, for accreditation purposes, that a subject's holder send assistants to teach his/her classes.

- To estimate the percentage of total class hours that is taught by full-time faculty, (it is not permissible for the subject's holder to send assistants to teach his/her classes for this estimate).

Explain how this estimation was performed.

³ **Professors or professors in face-to-face educational model and facilitators in distance educational model**

1.5.4 Fifty per cent of the subjects of the specialty of the educational program must be taught by professors with a master's, doctoral, or minimum bachelor's degree, and five years of professional experience and are up to date in this area.

- Estimate the percentage of the subjects of the specialty of the educational program that are taught by professors with a master's, doctoral, or minimum bachelor's degree, and five years of professional experience and are up to date in this area.

Explain how this estimation was performed.

1.5.5 At least 60% of the total full-time professors must have postgraduate studies or the equivalent in professional development and prestige in their specialty area.

- To estimate the percentage of the total number of full-time professors who have graduate studies or the equivalent in professional development and prestige in their specialty area.

Explain how this estimation was performed.

1.5.6 At least 30% of the total professors who are not full-time must have postgraduate studies or the equivalent in professional development and prestige in their specialty area.

- To estimate the percentage of the total number of professors who are not full-time who have graduate studies or the equivalent in professional development and prestige in their specialty area.

Explain how this estimation was performed.

1.5.7 There must be an appropriate balance between newly hired professors and professors with teaching experience.

- Provide the following information for the past three periods

Period	No. of new professors	No. of professors with teaching experience.

1.5.8 There must be a balance between professors with academic degrees of the institution and other institutions.

- Provide the following information for the last three periods:

* Academic Balance: 50% of professors with academic degrees from the institution to be assessed and 50% from other institutions.

Number of professors assigned to the program with degrees from the institution

Bachelor's degree	Master's degree without degree	Master's degree	PhD without degree	PhD with Degree	Another degree	Total

Number of professors assigned to the program with degrees from other institutions

Bachelor's degree	Master's degree without degree	Master's degree	PhD without degree	PhD with Degree	Another degree	Total

1.5.9 Do professors, facilitators, tutors and advisors have experience in distance, virtual or on-line education and have knowledge and command of technological platforms?

YES []

NO []

In any case, briefly explain: _____

Provide professors, facilitators, tutors and advisors resumes, that demonstrate the experience and knowledge of what is here stated.

1.6 Distribution of the academic load of full-time professors. *Each full-time professor must be assigned to at most 16 hours a week of class in front of a group. The rest should be distributed in some of the following activities:*

- Attention to Students (counseling, tutoring, thesis direction).
- Class preparation, educational materials preparation, homework revision, and correction of tests
- Academic update and improvement
- Research and/or technological development
- Institutional Participation
- Engagement with the productive and service sectors
- Writing of articles for magazines
- Writing of textbooks

1.6.1 Indicate the number of face-to-face class hours of each professor assigned to the program, and an estimate of time devoted to the activities identified.

Professor	Face-to-face class hours	Hours in other academic activities	Total

1.6.2 At least a 50% of the full-time faculty must be linked to a research or technological development project in the area, or to a project of the area of the educational program for the productive and/or services sectors⁴

- Estimate the percentage of the full-time faculty must be linked to a research or technological development project in the area, or to a project of the area of the educational program for the productive and/or services sectors

Explain how this estimation was performed.

1.7 Evaluation. *Feedback mechanisms that allow, from evaluations of the students about the teaching performance of their professors, carry out actions aimed at improving the teaching-learning process must be implemented.*

1.7.1 Have a procedure regulated in order to assess the teaching and research activity of academic staff for the purpose of retention and promotion. This Evaluation must be performed by a previously established academic commission.

- Are there teacher performance evaluation and faculty research mechanisms? Yes No
- Is it regulated?: Yes No

A brief summary of the process indicating those who take part in it, as well as the responsibilities they have.

1.7.2 Teacher evaluations should be undertaken on a periodic basis, at least once per school term, and its results should be made available to the professor along with recommendations that must generate an improvement plan.

⁴ Projects must have the support of the educational institution. Provide project list

- In the case of the Evaluation of academic staff, please indicate who carries it out:

Collegiate Groups Students Other instances (indicate which)

- For each case that has been pointed out in previous line, attach information on the process, such as forms or reports. Summarizing, indicate the form and intervals in which they are performed.

- Is there a dissemination of the results of the process carried out? Yes No

If so, describe the type of divulge that is performed and provide the results of the latest school periods (preferably the last three years).

- Indicate what the information from evaluations is used for, if results are delivered to the professors, and what actions are taken as a consequence of the results of the evaluations.

1.7.3 There should be a program of well-defined incentives or stimuli based on academic criteria and according to teacher performance.

- Are the academic criteria that assess productivity and teacher academic performance efficiency specified? Yes No

If yes, summarize the main criteria.

- Is there a stimuli or incentive program for professors who meet these criteria? Yes
No

1.8 Promotion. *Promotion mechanisms should be public domain.*

- Is there a formal process for the promotion of academic staff? Yes No
- Are there regulations for this process? Yes No

A brief summary of the process indicating those who take part in it, as well as the responsibilities they have.

- Is a dissemination of the results of the process carried out? Yes No

If so, describe the type of divulge that is carried out and provide the results of the last three years.

A Specific criteria of academic staff on TIC programs. The following criteria are intended to complement the academic staff Evaluation of the category, verifying the conditions and characteristics of human resources dedicated to support the tasks related to the teaching-learning process of the TIC program.

A.1 Wage and social security benefits level of full-time academic staff, as well as their increments and promotions, must be such as to allow a dignified life, and at the same time make their dedication to academic career attractive. In addition, the fees of part-time professors must be attractive for this type of activity.

Salaries must be competitive in relation to what is offered on the labor market for ICT areas.

Full-time professors:

CATEGORY	No. OF PROFESSORS IN THIS CATEGORY	BASE SALARY	RANGES OF PERCEPTIONS REACHED WITH INCENTIVES, STIMULI AND OTHER INCOME	
			INTERNAL	EXTERNAL

Part-time professors:

CATEGORY	No. OF PROFESSORS IN THIS CATEGORY	BASE SALARY	RANGES OF PERCEPTIONS REACHED WITH INCENTIVES, STIMULI AND OTHER INCOME	
			INTERNAL	EXTERNAL

Per hour professors (subject)/class:

CATEGORY	No. OF PROFESSORS IN THIS CATEGORY	BASIC SALARY PER HOUR	% AVERAGE INCREASE TO INCOME BY OTHER BENEFITS

A.2 In order to promote the interaction of the program academic staff with the productive sector, procedures must exist that regulate such interaction, as well as admissions and external stimuli that professors can obtain as a result of this relationship.

- Are there written regulations or provisions that regulate the interaction of academic staff with the productive sector? Yes No

- If yes, are income and external income and incentives that professors can obtain as a result of the relationship included in that regulations? Yes No

If the answer to the previous question was yes, summarize the main points.

A.3 The program full-time professors should produce teaching and outreach materials, and/or text books.

- Indicate didactic and outreach materials, as well as textbooks that have been developed by professors assigned to the program in the last 4 years:

Professor	Didactic Material	Outreach Material	Text books	Total

A.4 The program must have at least one strategy, so that all professors participating in it know the relationship, importance and focus of each and every subject that form it (curricula), in order to give the proper orientation to each subject they teach.

- Does the program have at least one strategy, so that every teacher participating in the program knows the relationship, importance and focus of each and every subject that make it up, in order to give the proper orientation to each subject they teach? Yes No

A.5 The program must have at least one strategy, to promote that all professors that study a graduate course are in touch with the needs of the educational program, the development of academic bodies and research lines, so as to fix the academic gaps of the program.

- Does this strategy exist? Yes No

Describe what the institutional strategies consist of:

2. Students

2.1 Selection. *There needs to be clarity in the selection of candidates for the educational program, so there must be explicit admission criteria that indicate the minimum conditions that new students must satisfy in order to be admitted to the program.*

2.1.1 It is required that students entering the academic program meet a minimum of conditions in terms of knowledge, attitudes and skills, and therefore there should be explicit selection criteria that are used to admit first-admission students, which must be:

- Existence of a profile of the applicant who is to enter the program.
- Establishment of the requirement that applicants take and admission test, which allow only to accept those who comply with the minimum knowledge and skills required.

Information on the foregoing points must be written in the form of a guide or manual for applicants.

- Does a profile of the applicant who is to enter the program exist? Yes No

If yes, provide a copy of the publication.

- Has a minimum average been specifically required in order to be admitted to the program? Yes No

If yes, it is from _____

- Must the applicant to the program take an admission test? Yes No

If yes, indicate the percentages, which includes:

Knowledge _____ (%) Skills _____ (%) Abilities _____ (%)

Other (specify) _____

Explain briefly what they are about:

- Is information provided in writing to the applicant who is to enter the program on the grades he/she obtained in the admission test? Yes No
- Does the program keep statistical data of those aspiring to enter as well as of the admitted ones? Yes No

If yes, please provide the following information:

Registration Period	Number of applicants	Number of admitted

2.2 Admission (new students). *It is necessary to know the characteristics of the new students to channel them to support programs, in order to prevent risk situations (failure and drop-out).*

2.2.1 Are the results of national exam prior to bachelor's degree taken into account?

Yes No

If yes, provide a copy of it.

2.2.2 Is the academic performance in the previous level taken into account to channel students to support programs?

Yes No

If yes, provide evidence.

2.2.3 Do interviews and/or surveys to new students take place?

Yes No

If yes, provide evidence.

2.2.4 Is there an instrument to obtain socio-economic data of new students?

Yes No

If yes, provide a copy of it.

2.2.5 Are educational research and analysis carried out on the basis of results new student's characteristics, in order to implement support programs?

Yes No

If yes, provide evidence.

2.2.6 Is there an induction program for new students?

Yes No

If yes, provide a copy of it.

2.2.7 In particular, students receive the induction required for the management of the learning environment when using content of the courses in the study plan, with the support of learning platforms?

YES []
NO []

In any case, briefly explain: _____

Present student induction strategies evidence to the learning environment

2.2.8 Does the educational program include studies that demonstrate that students have the profile required to study in an autonomous way, highlighting responsibility and research skills and being self-taught?

YES []
NO []

In any case, briefly explain: _____

Provide an official document of the studies and their results, which must be current

2.3 School Trajectory. *Students must have a plan for monitoring their performance during their stay in the study program, as well as receive feedback to improve it. (Proven trend of decreasing failure rates and dropout rates.)*

2.3.1 Is there a monitoring and stay performance plan for students in the study program? Yes No

If yes, provide a copy of it.

- Do students receive feedback to improve their stay in the program of study? Yes
No

If yes, describe how the student receives feedback on his/her performance:

2.3.2 Is there a clear trend to decreasing failure rates? Yes No

If yes, please provide and justify the corresponding indicators.

2.3.3 Is there a clear trend to decrease in dropout rates? Yes No

If yes, please provide and justify the corresponding indicators.

2.4 Group Size. *The size of the groups should not be in any case more than 60 students, and preferably there should be a maximum of 45 students. If this condition is not met, attention to students must be ensured.*

- Provide the average group size of the last two years _____
- How many groups in the past two years had more than 60 students? _____
- How many groups in the past two years had more than 45 students? _____

Describe how to guarantee the attention to students in groups with more than 45 students.

2.5 Degree. *There must be one or several regulations of students, to consider the following aspects: Subject accreditation and evaluation mechanisms, rights and obligations of the student and certification mechanisms. Also the options to obtain the degree must be regulated, and there must be a procedure that ensures the quality of degree works. In the degree requirements, the score obtained on the TOEFL test or equivalent shall be at least **500 points or equivalent in other means of formal evaluation.***

2.5.1 There must be one or several regulations of students, to consider the following aspects:

- Subject accreditation and evaluation mechanisms
- Student rights and obligations
- Degree Mechanisms.

- Are there regulations for students? Yes No

If yes, please provide a copy, and the following information.

❖ Maximum number of opportunities to approve a subject, either for having studied it, for having held sufficiency exams, or through any other mechanism:

❖ Maximum number of extraordinary, sufficiency, or similar examinations throughout their studies:

- Same subject _____
- Of all subjects studied _____

❖ Maximum number of years, semester, or school periods in which the student can finish covering the credits for the differentiated program if it is a full time (TC) or part-time (TP) student.

- TC _____
- TP _____

- Main reasons to automatically discontinue a student:

- How and when the student becomes aware of the content of the regulations for students (if any)?

- May the student take part in the collegiate bodies of the institution? Yes No
 - With a Voice Yes No
 - With Vote Yes No

Briefly indicate the requirements for this:

2.5.2 The institution must have degree options regulated, both on requirements and procedure.

- Are there regulations that indicate degree options, both on requirements and in procedure? Yes No

If yes, provide a copy of it.

2.5.3 There must be procedures in place to ensure the quality of the degree work in which academies or any collegiate group designated for this purpose and with external participation take part.

- Is there a procedure to ensure the quality of degree works? Yes No

If yes, indicate what it is and those who participate in it:

2.5.4 The score obtained on the TOEFL test or equivalent shall be at least **500 points or equivalent in other means of formal evaluation.**

Yes No

2.6 School performance rates per generational cohort. *The dropout rate must show a decreasing trend, and there shall be reliable statistics to observe it. Never less than 20 % terminal efficiency.*

- Does the program have data that make it possible to analyze the flow of students in the different periods and know school drop-out rates by period? Yes No

3. Curriculum

- **3.1 Rationale.** *Official documentation must exist to support the program creation, retention and/or update. (The program must have curriculums that make it possible to evaluate the relevance of the curriculum according to the demands of society and the labor market, as well as scientific and technological progress) (frame of reference profiles ANIEI - CONAIC).*

3.1.1 Rationale for the program

- Is there a document that justifies the creation of the program? Yes No

Expose in a clear and concise manner the following:

- The reasons for which the program was established (why and what for)

- The reasons for which the program is currently ongoing

- What specific demand the program aims to satisfy?

- What specific demand the program meets?

3.1.2 It is important that there be consistency with institutional mission, vision and objectives, the objectives of the national development plan (ongoing) and education (ongoing) of the country, as well as with the objective of higher education (ongoing).

- Are the institutional mission, vision and objectives published? Yes No

If yes, please provide a copy.

In one paragraph, justify consistency between the mission, vision and objectives and the program objective, and the higher education objective.

3.2 Admission and graduate profiles *There must be a definition and consistency of the overall objective of the program and the graduate profile, as well as consistency with developments in the specific knowledge area.*

3.2.1 There must be a definition of the overall objective of the program and graduate profile.

- Is the program curriculum published? Yes No

If yes, please provide a copy of the program documentation.

- Does program documentation describe the graduate profile? Yes No
- Does program documentation describe the program objectives? Yes No

3.2.2 Consistency between graduate profile and objective is important.

In one paragraph, justify consistency between graduate profile and program objective.

3.2.3 The objective must be consistent with the present and future developments in the area of knowledge.

In one paragraph, justify consistency between program objective and present and future developments in the Informatics and Computing area.

3.3 Permanence, graduate, and revalidation regulations. *There must be regulations that clearly indicate the permanence, graduate, equivalence, and revalidation requirements of the academic program and whether it spreads among the student community.*

3.3.1 Are there regulations that clearly indicate the permanence, graduate, equivalence, and revalidation requirements of the academic program and whether it spreads among the student community? Yes No

Briefly describe permanence, graduate, equivalence, and revalidation procedure of the academic program

Attach the regulations that support the statement.

3.4 Subject Programs. *Time units⁵ dedicated to each knowledge area of the program should be calculated, considering two classifications: One that is generic and includes 4 areas: 1) Informatics and Computing, 2) Mathematics and Basic Sciences, 3) Social Sciences, Humanities and 4) Other; and the other one, that is specific of the Informatics and Computing knowledge area, and that covers 8 areas: 1) Man-Machine Interaction, 2) Information Treatment, 3) Programming and Software Engineering, 4) Database Software, 5) Networks, 6) Computer Architecture, 7) Social Environment, and 8) Mathematics.*

Annex for Informatics and Computing Academic Programs

Program Total Units

⁵ To be able to compare the curricula of various programs, reference is made to units in each course. For the purposes of equivalence, a unit equals 1 hour of face-to-face theory, or 3 hours of face-to-face practice for bachelor's degree and, in the case of Senior University Technician, the equivalence is 2 hours of face-to-face practice. The Commission recognizes that there are new pedagogical models where students engage in self-study; in these cases, the institution seeking accreditation must justify the equivalence used for the number of units.

3.4.1 Indicate 5 time units² dedicated to each knowledge area of the program, considering two classifications:

Period	Course name	Informatics and Computing	Math and Basic Sciences	Social Sciences, Humanities	Other
1					
2					
3					
4					
Total					
Grand Total					

Units of Informatics and Computing

3.4.2 Indicate the units dedicated to each area of the knowledge of Informatics and Computing on the basis of the following classification.

Profile⁶: A B C D

Period	Course	Man-machine interaction.	Information treatment	Software prog. and eng.	Database Software	Networks	Computer Architecture	Social Environment	Mathematics
1									
2									
Total									

Grand Total									
--------------------	--	--	--	--	--	--	--	--	--

3.5 Contents. Each subject program must contain the location within the curriculum, general objective, objectives for each section of the course, topics by section, practice (if any), basic bibliography, necessary resources, hours of use of computing infrastructure, evaluation form, hours of theory and/or practice and the equivalent in units, for the purpose of validating responses 3.1 and 3.2

3.5.1 Program Subjects

- Is there a list or curriculum map with subject serialization? Yes No

⁶ A: BA in Informatics; B: Bachelor's degree in Software Engineering; C: Bachelor's degree in computer science; D: Computer engineering.

If yes, provide a copy of it.

- Is this information provided to the student? Yes No
- Are the synoptic programs (condensate) of all subjects available? Yes No In what % _____
- Are the analytical programs (detailed) for all subjects available? Yes No What % _____

If the answer is yes, attach the analytical programs of all subjects.

Based on the total of the analytical programs of the program subjects, indicate what percentage of them are specifically mentioned:

ELEMENT	What % of the analytical programs of the subjects include it
Prerequisites	
General Objective	
Objectives for Each Section	
Topics by section	
Practices	
Bibliography	
Necessary resources	
Hours of use of computing infrastructure	
Evaluation Form	
Hours of theory and/or practice	
Professor's desirable profile (graduate education and experience in the field)	

3.5.2 The subjects corresponding to the specialty include projects aimed to develop the student's ability to solve real problems in accordance with the technological needs of the program itself.

Indicate the subjects of the program in which projects target to develop the student's ability to solve real problems in accordance with the technological needs of the program itself.

SUBJECT	Describe the nature of the projects to be carried out by the students

3.5.3. The curriculum should consider the development of team work and an interdisciplinary approach.

Indicate in which subjects of the program team work and an interdisciplinary approach are developed.

SUBJECT	Describe how team work and interdisciplinary work are developed

3.6 Curricular flexibility. *Curriculum should be revised and updated, if applicable, at least every five years and there should be a formal procedure for review and updating, in which collegiate bodies, external advisers, representatives of the productive sector, active graduates and recognized researchers must participate. There should also be a permanent curricular evaluation process.*

Indicate the elective subjects offered in the last three years.

SUBJECT	PERIOD	UNITS and AREAS ⁷

⁷ Subject units and areas should be considered in terms of the classification indicated in the responses 3.1 and 3.2.

3.7 Evaluation and updating. *Curriculum should be periodically reviewed and updated, and official procedures should exist in order to perform this, which should indicate collegiate bodies, consultants, graduates and recognized researchers.*

3.7.1 Curriculum should be revised, and updated if applicable, at least every five years.

Please indicate which were the latest revisions to the curriculum and what was involved in each review.

Date of review	What was the review about?

3.7.2 There should be a formal and functional procedure for the curriculum review and updating.

- Is there an official procedure for curriculum review? Yes No

Briefly describe the procedure for curriculum review and updating.

3.7.3 The review and updating processes must have the participation of collegiate bodies, as well as of a group of external advisors, representatives of the productive sector, and graduates in active service, and recognized researchers.

- Do collegiate bodies participate in curriculum revision and updating? Yes No

In which way?

- Are external advisors and representatives of the productive sector involved in curriculum revision and updating? Yes No

In which way?

- Are graduates of the program involved in curriculum review and updating? Yes
No

In which way?

- Do recognized researchers take part in curriculum review and updating? Yes No

In which way?

3.7.4 There should also be a permanent curricular evaluation process.

- Is there a permanent curriculum evaluation procedure? Yes No

Describe this procedure:

3.8 Divulge. *As a fundamental part of the teaching-learning process, updated programs of each and every subject that is part of the curriculum should be available for consultation by: professors, students and general public.*

3.8.1 The updated programs of every curriculum subject are available for consultation on the part of professors, students and general public? Yes No

3.8.2 Please indicate which of the following aspects are made know to the student.

- | | |
|--------------------------|--|
| Curriculum Structure | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Objective | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| <input type="checkbox"/> | |
| Profile | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| <input type="checkbox"/> | |

- Subjects Yes No
-
- Hours Yes No
-
- Duration Yes No
-
- Serial (subjects) Yes No
- Specialty(ies) Yes No
-

If yes, please describe how a person have access to information about programs:

3.8.3 Mechanisms must exist for external promotion (visits to higher-level sites, leaflets, outreach through mass media, etc.) of the program.

- Do mechanisms exist for the external promotion of the program? Yes No

If yes, indicate what they are.

4. Evaluation of Learning

4.1 Continuous Evaluation methodology. *In this criterion the relevance of the evaluation method applied and the curriculum objectives must be assessed. In this sense, this criterion provides for a number of aspects that must be taken care of, among them: the use of computer during teaching-learning process must be included; in the courses which by their nature so require; there must be strategies to ensure the compliance of each subject curriculum; teaching methods different from the traditional ones must be included; the evaluation of student performance should be done through the combination of several mechanisms; feedback mechanisms to improve the teaching-learning process; teaching a foreign language must be considered, and there must be mechanisms for measuring the competencies of the students at the end of their school career according to their graduate profile.*

4.1.1 The use of the computer during the teaching and learning process, in the courses which by their nature so require, must be included.

- Does the program have statistics on the use of computing tools by the students? Yes No

If yes, provide the following information for the last school periods:

School Period	Average number of hours of use per student

4.1.2 At least 90% of curriculum subject programs must be covered.

- Are there statistical data that show the percentage that is covered in each subject with respect to the program? Yes No

If yes, include the results in the table below

% Covered	Number of subjects	Reasons for not being able to cover 100% of the program (for each subject)
100%		
Between 90% and 100%		
Less than 90%		

4.1.3 Every program must establish that in several courses teaching methods different from the traditional teacher oral exposure are included in whole or in part, such as the use of audiovisual, multimedia, interactive classrooms, project development, laboratory practices, etc., as well as other kinds of activities aimed at improving the teaching-learning process.

- Are methods different from the traditional teacher oral exposure used in the teaching of courses of curriculum subjects? (Visual support, multimedia, interactive classrooms, project development, laboratory practice, etc.): Yes No

If yes, indicate:

Method employed	Number of subjects	Reasons why the use of this method is relevant

4.1.4 Student's performance quality during his/her stay in the program should be assessed through the combination of several mechanisms, such as exams, homework, problems to solve, laboratory work and reports, and his/her skills in areas such as: oral and written communication, project management, professional ethics and sustainability must be considered.

- In order to check the academic rigor in the Evaluation of learning, the program manager will need to collect a representative sample of the following material prepared by students, to be revised in the visit:
 - ❖ Graded exams for each subject for all semesters (3 for each subject: 1 worst grade, 2 regular, 3 best).
 - ❖ Series of exercises, homework, and other works used in the teaching-learning process.
 - ❖ Laboratory practices and reports that are taught.
 - ❖ Class notes.

- Briefly describe the way in which the skills are developed: oral and written communication, project management, sustainability, student's social commitment and ethics, as well as the existing institutional support (writing courses, etc.):

4.1.5 Feedback mechanisms that allow, from evaluations of the students about the teaching performance of their professors, carry out actions aimed at improving the teaching-learning process must be implemented.

- Do Students perform course evaluations? Yes No

If yes, describe how the results of course evaluations are made known and the actions taken to improve them:

4.1.6 There should be a strategy for the education in, and practice of, a foreign language.

- Does curriculum establishes as a requirement that students are or become fluent to some extent in a foreign language? Yes No

If so, briefly describe what this requirement is:

- What mechanisms / strategies are used for students to become fluent to some extent in a foreign language?

- 4.1.7 Is there a measurement mechanism on the competencies developed by students at the end of their academic career according to their admission profile? (**Certification of competencies under national or international standards according to ICT profile to be assessed for Bachelor's Degree and senior university technician (TSU) reflected in ANIEI-CONAIC 2014 updated curriculum models**)

Yes No

If yes, please describe competency measurement and certification mechanism:

Fill out the Cross Competencies and Professional Competencies table, according to the profile to be evaluated, which is included in the Annex.

4.2 Incentives to academic performance. *With the aim of improving the students' performance, every program must consider a scholarship program for economic support to students who show academic ability, in order to encourage them to devote as much time as possible to their studies. The program also must have at least an incentive and/or recognition system to acknowledge the academic development of students over the school period; both of these mechanisms must be effective and known by the academic community.*

4.2.1 Is there a scholarship program for students?

Yes No

If yes, describe scholarship granting requirements, as well as the types of scholarships that are granted to students:

- Describe, for the last three school periods, the amounts of scholarships and loan scholarships granted, as well as the number of students benefit from them:

School Period	Scholarships amount	No. of students benefited from scholarships	Amount of loan scholarships	No. of students benefited from loan scholarships

4.2.2 Are stimuli to or recognition of the good academic performance of the students granted? Yes No

List them, indicating if they are granted at the institution (I), Academic Unit (A), or Program (P) level.

Stimulus description	Level

5. Integral Education

5.1 Entrepreneurial Development. *There are strategies that promote an entrepreneurial attitude through the operation of entrepreneurial development programs, courses, workshops, business incubators or the like.*

5.1.1 Are there strategies that promote an entrepreneurial attitude through the operation of entrepreneurial development programs, courses, workshops, business incubators or the like? Yes No

If the answer is yes, please briefly describe in which programs and projects are students and professors involved:

For this purpose, it is necessary to know:

- How many students and professors participate in the program? _____
- What percentage of the program tuition does it represent? _____
- The number of companies promoted. _____
- Events organized within the campus. _____
- Events organized by other educational or business sector institutions to which they attend. _____
- If awards have been obtained, how many and in which forums have they been granted? _____

5.2 Cultural Activities⁸. *The institution must have facilities for the promotion of cultural activities and a formal program for the development of these activities, involving students of the educational program.*

5.2.1 Make a list of the facilities intended for cultural activities for the promotion of academic life, indicating how many users they serve simultaneously in each case.

5.2.2 The institution must have a formal program for the development of cultural activities in which students of the educational program take part.

⁸The Program should ensure cultural and sports activities through its own facilities, through an agreement, etc.; it must describe such activities.

- Make a description of it, and a list of cultural activities in which students of the educational program take part, as well as the percentage in relation to the tuition of the educational program.

5.3 Physical and Sporting Activities⁹. *The institution must have facilities for the promotion of sports activities and a formal program for the development of these activities, involving students of the educational program.*

- 5.3.1 Make a list of the facilities for sports activities for the promotion of academic life, indicating how many users they serve simultaneously in each case.

- 5.3.2 The institution must have a formal program for the development of sporting activities in which students of the educational program take part.

- Make a description and a list of sporting activities in which students of the educational program take part, as well as the percentage in relation to the educational program tuition.

5.4 Vocational guidance. *The institution must have specific technological development programs in the discipline of the educational program, with the participation of professors and students, as well as scientific and technological events that support the course curriculum and the appropriate integration of graduate students to the labor market.*

- 5.4.1 Are specific programs in which professors and students develop technological development projects in Informatics and Computing considered?

Yes No

⁹The Program should ensure cultural and sports activities through its own facilities, through an agreement, etc.; it must describe such activities.

If the answer is yes, please describe briefly what programs or projects students take part in:

5.4.2 For vocational guidance, academic-scientific events (seminars, congresses, forums, conferences and courses, co-curricular, among others) that support the curriculum of academic program are carried out? Yes No

5.4.3 Is there a vocational guidance program in operation that will allow students who are to become graduates, to enter the labor market in the appropriate manner (courses and conferences given by experts from the labor market). Yes No

In the case of offering this service and to keep a record, provide information on the number of events and students who attended in the last three school periods.

School Period	Type of event*	Number of attending students

*Seminars, Congresses, Forums, Conferences and co-curricular courses among others.

5.5 Counseling. *There is a counseling program for prevention of risk attitudes (addictions, violence, sexual education, among other aspects) or to support students when they apply for counseling, as an institutional program of vocational guidance and counseling.*

5.5.1 Is there a counseling program for prevention of risk attitudes (addictions, violence, sexual education, among other aspects) or to support students when they apply for counseling? Yes No

If the answer is yes, please describe briefly what programs or projects students take part in:

5.5.2 Is there a vocational guidance and counseling institutional program? Yes No

If the answer is yes, please briefly describe the nature of the programs.

5.6 Medical Services¹⁰. *There must be an appropriate place with drugs and materials required for first aid; these materials must be available for academic and administrative staff, and students.*

• Is there medical service or first-aid materials? Yes No

If yes, please describe briefly

• Is this service accessible for academic and administrative staff and students? Yes
No

If yes, justify your response.

5.7 School - Family Link. *With the purpose of supporting the integral formation of students it is convenient to have communication with parents, so it is a good idea to define the appropriate communication channels, induction activities and orientation courses for parents, among other mechanisms.*

5.7.1 Is there communication with parents? Yes No

¹⁰ In the case of face-to-face or mixed learning programs, medical services must be guaranteed through strategies set by the institution itself and should be described and evidence presented.

If the answer is yes, please briefly describe what these channels of communication consist of.

- Induction activities in order for parents to get to know the institution

- Parent orientation courses

- Other

6. Learning Support Services.

- **6.1 Tutoring.** *With the purpose of supporting students in their school careers, it is a good idea to offer support through academic counseling and tutoring to help them complete their studies. Measuring the impact of the mentoring program.*

6.1.1 Tutoring to students is offered in a constant and organized manner?

Yes No

6.1.2 In case this service is offered, and that a record is kept, provide information on the number of students served in the last three school periods and the total time the teaching staff dedicated to this activity.

School Period	Support Mechanism	Number of students who receive support	Teaching staff time dedicated to these activities

6.1.3 Are there mechanisms and instruments to assess the Tutoring Program, as well as its impact?

Yes No

If the answer is yes, please briefly describe what is the mechanism and its impact.

6.2 Academic Advising. *The program must be in operation mechanisms and instruments to provide a permanent academic counseling to students. In this area, it is also necessary to assess the impact of consulting services for the decrease in failure rates.*

6.2.1 Program professors provide academic advice permanently to the students:
Yes No

- In case this service is offered, and a record is kept, provide information on the number of students served in the last three school periods and the total time of the teaching staff dedicated to this activity.

School Period	Support Mechanism	Number of students who receive support	Teaching staff time dedicated to these activities

6.2.2 Are there mechanisms and instruments to assess the advisory services program, as well as their impact on the reduction of failure rates?

Yes No

If the answer is yes, please briefly describe what is the mechanism and its impact.

6.3 Library - Access to Information¹¹. *There must be appropriate library facilities, located as close as possible to those where the academic activities are performed, and with sufficient space to provide service, at the same time, to at least 10% of the students, as well as suitable places for the provision of other services, such as cubicles for study groups, exhibition space, library, video library, etc.*

6.3.1 Can the library facilities that support the program be found in the area where the student population conducts their academic activities, or the virtual library guarantees the access of student population of the Program for their academic activities?

Yes No

For libraries with physical facilities, in the event of a negative reply, indicate how far away is the library of the academic areas where the program develops. And in the case of virtual libraries, describe how this one guarantees service

Library services available to the program are:

- Institutional _____
- With a wealth of _____ copies
- With capacity to serve _____ users simultaneously
- With open shelving in the case of a physical library
- With the following services:

Yes No

- In the Academic Unit ____
- With a wealth of _____ copies
- With capacity to serve _____ users simultaneously
- With open shelving in the case of a physical library

Yes No

¹¹ The programs may or may not have a physical library, but what is essential is that access to information is ensured, as set forth in this criterion.

- With the following services:

- Belonging to the Program _____
- With a wealth of _____ copies
- With capacity to serve _____ users simultaneously
- With open shelving in the case of a physical library Yes No
- With the following services:

- What other services are provided by the library in which the program supports the student community? (In the case of libraries with physical facilities describe if they include audiovisual equipment, projection rooms, cubicles for study groups, printing, computer equipment for consultation, consultation via the Internet, exhibition halls, exhibition space, newspaper library, video library, etc.; in the case of virtual libraries, how it provides these services)

6.3.2 The institution must choose and comply with the standards, for the establishment and operation of general and specific service libraries that serve the program.

- Do general and specific libraries that provide service to the program being evaluated comply with the rules of the Higher Education and Research Institutions Library Association (ABIESI) in its fundamental points? Yes No

Include the corresponding support documentation.

6.3.3 The library must have titles of reference texts used in the coursework for the program, for at least 10% of the students enrolled in them, when it is in physical form, and for 100% in the case of digital forms.

The bibliographic material existing in the library on which the program rests has the following:

- Reference texts mentioned in the subjects of the study plans:

Yes No

- Different titles for each subject that is taught in the program Yes no
- Percentage of students who can make simultaneous use of reference texts available: _____
- Are there subscriptions to journals in the area of specialty and basic sciences? Yes
No

6.3.4 There must be infrastructure for access to digital collections via the Internet.

- Does the library have infrastructure for access to digital collections via the Internet? Yes No

6.3.5 The library must be able to provide access to relevant journals and publications in the Informatics and Computing area.

The bibliographic material existing in the library on which the program rests has the following:

- Access to publications and journals relevant in the field of informatics and computing Yes No

Attach a list of journals related to Informatics and Computing.

6.3.6 The library must have collections of reference works that include technical manuals, special and general encyclopedias, dictionaries, statistics, etc.; to support the program.

The bibliographic material existing in the library on which the program rests has the following:

- Technical manuals in the area: Yes No
- Reference collections such as dictionaries, general and special encyclopedias, Yes No
- Statistics Publications: Yes No

6.3.7 The bibliographic wealth and subscriptions to magazines should be subject to ongoing renewal.

- Is there an ongoing renewal of the bibliographic wealth and subscriptions to journals? Yes No
- How is the renewal of the bibliographic wealth and subscriptions to journals carried out?

6.3.8 There must be electronic means which allow automated search within the bibliographic wealth.

The library has:

- Electronic media that allow automated search within the bibliographic wealth: Yes
No

6.3.9. Updated records and statistics of the provided services must be kept; among them, the number of users and the service type provided. This information must be processed in an automated manner

- The library that supports the program has up-to-date records of library services provided in recent periods School: Yes No

If yes, provide data for the last three school periods:

Service Type	General Users	Program users	School periods		

6.3.10 The academic staff should participate in the bibliographic material selection process.

- Briefly describe bibliographical material selection process, and those who participate in it.

6.3.11 There Must be an efficient mechanism for the acquisition of bibliographical material that meets program needs.

- Briefly describe the mechanism of acquisition of bibliographical material, and how it meets the needs of the program.

6.4 TECHNOLOGICAL AND LEARNING PLATFORMS

Software or learning environment that the institution uses as a mechanism to create, approve, store, distribute and manage teaching and learning contents and activities for distance, virtual, or on line learning, and even as a complement to face-to-face learning. Focuses on managing content created by a wide variety of sources, serving to support the actors of this modality, such as students, professors, tutors, administrators and guests. The intention is to make available to students the methodology embodied in the organization or didactic structure of the materials, homework, forums, chat (among others) created by a group of professors to promote learning in a particular area. Some of the functions of these learning environments are to manage users, resources, training and content; to manage access; learning process control and follow-up; evaluation; to generate reports; to manage communication services such as discussion forums, video conferencing, among others.

6.4.1 State the type or types of technological platform used for the administration of the educational program contents:

Proprietary or licensed (Example: Blackboard, WebCT, OSMedia, Saba, etc.) []
 State which: _____

Free or Open Source Software (Example: ATutor, Dokeos, Claroline, dotLRN, Moodle, or institutional developments, etc). []

State which one, and if it is an institutional development describe it:

Public or private cloud computing for higher education, although it is not strictly speaking a platform, serves as a support for face-to-face modality, and even for the distance or virtual modality (Example: Udacity, Coursera, Udemy, Wiziq, or institutional developments, etc.) []

State which one, and if it is an institutional development describe it:

Provide evidence, either license, development, or use, as the case may be.

6.4.2 Select from the list below, the characteristics¹² (see description on footer) of learning environment that it uses for its educational program:

[] Interactivity

¹² Detail of learning environment characteristics: **1) interactivity**. It refers to all synchronous and asynchronous communication tools, such as those of cooperation, collaboration, sharing and generation of content (such as chat, forums, wikis, collaboration in the cloud or other similar system, creation of working groups, survey creation, Evaluation test, video conferencing, activities and mail delivery spaces within the learning tool, among many others that exist and that are still being created to communicate and interact; **2) Flexibility**. Refers to the degree of adaptability, both technological and pedagogical; it must have the tool to encourage lifelong learning; **3) scalability**. It refers to projections for the future, i.e., to have control and be able to follow up, so that the educational environment can be transformed and adapted to existing or future resources; **4) Usability**. It refers to the platform ease of use by learning actors -professors or facilitators, guardians, students, administrators; it has to do with the integration of the accessibility, navigation, programming, management, design and image features of the learning environment; **5) Ubiquity**. It is the ability of the learning environment of being able to be used in all parts simultaneously and to be transparent to the student, making him/her feel that everything he/she needs for learning is within such an environment, at the same time for the rest of learning actors, which allows them to be, be there, create, and modify the student's environments. I.e., the degree of presence provided by the platform and its ability to integrate with other external autonomous systems (such as social networking sites, etc.); **6) Functionality**. It refers to the level of efficiency, effectiveness, portability and ease of installation. That is, the combination of technological requirements, infrastructure and resources from the server; **7) Standardization**. It refers to the acceptability of standards such as SCORM or the ease to import or insert other resources or content into the learning environment.

provide the evaluators with access to your platform.

6.5.3 Use any methodology or tool for the Evaluation of content and topics of the course included in your material to evaluate at least the following aspects: motivation in students for its use; timeliness of the information presented; temporal and spatial effect; quality in the content presentation (in terms of wording, spelling, typography, graphic design, color, originality; etc. In addition to indicating those who take part in the Evaluation of the material (content experts, professors, educational psychologists, technicians in audio, video, and computer; graphic designers, communication specialists, professors, facilitators, guardians or advisers, and students)

YES [] NO
[]

Briefly describe its elements: _____

Provide an official document with the methodology or tool, and the results of its application, updated

6.5.4 Does it use any methodology or tool that allows to evaluate the design, impact, production time, and coverage of students, ease of distribution, availability, and interaction between content, facilitators of learning, students and between students, other media, other materials, hypertexts, hyperlink, and hypermedia.

YES [] NO
[]

Briefly describe its elements: _____

Provide an official document of the methodology or tool, and the results of its application, updated

6.5.5 Didactic or learning materials involve technical aspects such as the interface design, delivery or deployment time, music, ambient sound, voice, equipment, ease of use, versatility, in general a good management and multimedia integration. As well as signal transmission and reception.

YES [] NO
[]

In any case, briefly explain: _____

Provide an example of material with these features being used or a link where the same can be analyzed. In the visit, provide the evaluators with access to your platform where the materials used by students are.

6.6. INTEGRATION OF LEARNING ACTORS.

Learning actors are all those involved in the teaching-learning process and those who support the administration of the technological and learning platforms; thus, professors or learning facilitators, tutors or advisers, students, and administrators of the learning platform, support and development managers have all been considered.

6.6.1 As part of the educational model, in the case of non-face-to-face nor mixed learning programs, face-to-face meetings are held in different venues to strengthen the interaction - in a defined time and a physical space - between all members that are part of the learning community: students, professors, facilitators, tutors and administrative staff, to share experiences and broaden learning horizons?

YES [] NO
[]

In any case, briefly explain: _____

Provide formal minutes of meetings that evidence them and their results.

7. Linking - Extension

7.1 Interaction with public, private and social sectors. *In an explicit way, the program must have strategies for the interaction with social and productive sectors, at the national or international levels, as well as result monitoring and evaluation.*

7.1.1 Does the program have a mechanism for formal interaction with the social and productive sectors? Yes No

If yes, please indicate the type of follow-up and Evaluation of the corresponding results.

7.1.2 There should be collaboration agreements with external entities to support the substantive functions of university affairs and have tangible results.

• Are there collaboration agreements in operation? Yes No

If so, describe them briefly and indicate what tangible results they have.

7.1.3 Do you have an established regulations for professional practices and stays in the space of work?

Yes No

If yes, please describe briefly

- 7.1.4 Are there training programs for students through scholarships granted by the companies to carry out technical activities in specific projects or for them to be trained in emerging disciplinary topics specific to the discipline of the

program, and/or have access to specialized equipment with modern technology; elements that facilitate their insertion in the labor market?

Yes No

If so, describe them briefly and indicate what tangible results they have.

7.1.5 Are there mechanisms and instruments to measure the extent of the interaction of IES with the productive sector?

Yes No

If so, describe them briefly and indicate what tangible results they have.

7.2 Graduate follow-up. *There should be a follow-up program for graduates and a mechanism to ensure that their points of view are considered in the restructuring of the curriculum.*

7.2.1 Does the program have a mechanism for the follow-up of graduates that includes surveys to employers for the job performance of graduates in the labor field and surveys to the own graduates to conduct research about their opinion on the study program they coursed, as well as mechanisms to ensure that the results of the surveys are taken into consideration for curriculum restructuring?

Yes No

If yes, briefly describe some of the results obtained.

7.2.2 Are there updated databases of graduates from the academic program?

Yes No

- 7.2.3 Are periodic surveys to graduates in order to know their work situation and the degree of satisfaction with the relevance of the program carried out?

Yes No

If yes, briefly describe some of the results obtained.

7.3 Academic exchange. *It consists in the existence of academic exchange agreements that are in full force and effect with other national and foreign educational institutions, which allow developing student mobility programs that contribute to their integral education, as well as of professors and researchers who participate individually or in collaborative networks **for the improvement of the academic program.***

7.3.1 Do these agreements exist?

Yes No

If so, briefly describe what these agreements are, and present evidence of operation.

Submit the list of students and professors of the educational program that have participated in academic mobility.

School Period	Mobility agreement	Number of students who receive support	Support Mechanism

School Period	Mobility agreement	No. of professors who receive the support	Products generated.

Note.- As an evidence of these indicators, it is necessary to attach a copy of the agreements.

7.3.2 What are the impacts of academic exchanges in the improvement of the educational program?

List them:

7.4 Social Services *The Program must adhere to constitutional guidelines for the provision of social service, and an appropriate follow-up must be carried out.*

7.4.1 Does the program keep track of students Social Service? Yes No

If so, briefly describe what it is, and the way in which the institution ensures to abide by the corresponding constitutional guidelines.

- ¿Is there any information on the type of activities carried out by students to meet the requirement of social service? Yes No

If yes, indicate the percentage of those activities which are related to the area of the educational program: _

7.5 Career Office. *The educational program must have a career office for students and graduates (appropriate and efficient).*

7.5.1 Does the program have a Career Office? Yes No

If yes:

- Is it adequate? Yes No

Why?

7.6 Outreach. *There must be mechanisms for culture outreach of the educational program academic area, such as: articles, research reports, periodicals, books, lectures, exhibitions and other. Part of this outreach must be targeted to children and youngsters. There must also be continuing education courses, language centers, external service and community service.*

7.6.1 What media the Institution provide and at what level (General, Directorate, headship, program, etc.) for cultural outreach, such as: Articles, research reports, journals, books, lectures, exhibitions, etc.?

7.6.2 There should be training programs for different sectors.

- Does the program conduct training programs for different sectors? Yes No

If yes, provide the following information for the past three periods.

Program	Company/Sector

7.6.3 The program should consider the existence of professional development activities such as continuing education courses, postgraduate programs, conferences, congresses, seminars, etc.

- The academic unit or the Institution has professional development activities: Yes No

Briefly describe what they consist of, as well as results obtained.

7.6.4 The program must have an external service (Consulting, Advisory) to companies and public sector institutions, which allow to obtain additional economic resources.

Yes No

Briefly describe what they consist of, as well as results obtained.

7.6.5 Is there an institutional foreign language education service in operation?

- Yes No

Briefly describe what it consists of, as well as results obtained.

8. Research

Note.- As for this criterion, in the senior university technician level, technological development as research shall be considered in the same conditions due to the education profile specific to this area.

8.1 Research lines and projects. *There must be an institutional policy that clearly sets research lines and regulations; research lines should group projects with one person in charge; and the leaders linked to research lines must have relevant academic degrees.*

8.1.1 Is there an institutional policy that clearly states research lines with their respective regulations? Yes No

If so, briefly describe what this policy is about:

8.1.2 Research lines defined, which grouped projects with an assignee.

- If the program has research lines defined, list them and describe them in synthetic form.

8.1.3 Leaders linked to research lines that have relevant academic degrees.

- Make a list of the Leaders of projects related to the lines of research, and indicate the level of academic degrees that has each one (master's degree, doctorate).

8.2 Research Resources. *It is necessary to allocate budgetary resources for research and/or technological development to enable BA teaching staff to comply with these substantive functions; there must be academic staff to develop networking and research activities, as well as the sufficient infrastructure, relevant to project development; there must be regulations for the development of research, and support staff enough, according to project size and importance..*

8.2.1 Are budget resources allocated for research and/or development?

Yes No

If yes, include evidence of budget allocations per project.

8.2.2 It is recommended that the institution has a program to interact with the productive or services sectors and research with the following characteristics:

- A group of undergraduate academic staff, integrated to develop networking activities and research, constituted by a minimum of two people with postgraduate studies in the specialty area of the program, preferably with a Ph.D. degree and at least three professors, professionals or students.
- A sufficient and relevant infrastructure regarding spaces and equipment for the development of an interaction with the productive or services sectors and research.

It shall include a list of the physical spaces and equipment exclusively for research. Please indicate how many researchers use this infrastructure.

8.2.3 Specific and approved regulations for the development of the research.

- In the institution, regulations relating to research tasks are explicit and duly approved?
Yes No

If yes, please explain the most important points.

8.2.4 Sufficient support staff (research technicians, holder professors, associate professors, etc.), depending on the size and importance of each project.

- Does the program have enough support staff for research development? Yes No

If yes, please describe the roles and list the personnel involved.

8.3 Divulge of Research Results. *There must be mechanisms for the dissemination of research generated in the academic area of the educational program.*

8.3.1 What media does the Institution provide and at what level (General, Directorate, headship, program, etc.) for the dissemination of research in the academic area? Articles, research reports, journals, books, chapters of books, conferences, exhibitions, etc.?

8.4 Research Impact. *The educational program should display research results consistent with teaching, as well as the transfer of research results for technological advancement and social environment improvement; therefore, the institution must provide the research projects linked to the program, and these must include: Project Table, Schedule by quarters and list of research projects completed in the last five years, funding per project and related production.*

8.4.1 Provide research projects linked to the program in the following ways:

- Project table
- Schedule by quarter
- List of research projects completed in the last five years.

Table per project

Project Name _____

Project Start Date _____ Scheduled Ending Date _____

Summary (Gestation, Evaluation, Current Status and Goals):

Person in charge of the project:		Time dedicated (hrs/week):	
Project participants:		Time dedicated (hrs/week):	

Funding sources: _____

Production related to:

1. Thesis level: Bachelor's degree _____ Master's Degree
 _____ Ph.D. _____
2. Patents _____
3. Prototypes _____
4. Scientific production

8.4.2 Mechanisms for the incorporation to the teaching practice of the results of research, which represent an educational innovation.

9 Infrastructure and equipment

In the TIC area, equipment and infrastructure are essential for curriculum development. The profession is strongly supported by telecommunications networks, computer equipment, and software of different natures, to mention some aspects.

9.1 Infrastructure¹³. *The physical spaces where computing services are offered must have adequate working conditions, safety and hygiene; with the exception of BA in Computing profile, the other profiles must have electronic laboratories; must have computing services for specialized courses and a staff with experience and an appropriate profile; it must take into account the opinion of professors for the design, upgrade and operation of computing services; classrooms must be functional and sufficient; there must be cubicles for professors, and for advisory services to students; there must be also auditoriums or appropriate and sufficient spaces for the various academic, research, and cultural outreach activities, and the toilets for students and professors must be appropriate and sufficient.*

9.1.1 List working conditions, safety and hygiene of computing services, (dimensions of working areas, ventilation, lighting, air conditioning, fire extinguishers, emergency exits, deposits, etc.).

9.1.2 With the exception of programs that correspond to the BA in Informatics profile, all programs must have at least one electronic laboratory conditioned to support them.

- For each program to provide the following information.

Program name	No. of electronic laboratories that are assigned to the program

¹³ For this section, either that the programs are face-to-face, mixed learning or e-learning, the program must ensure access to physical and virtual laboratories, as the case, and the need, may be.

9.1.3 The program must have the necessary computing services for specialized courses and activities related to it.

- List the existing computing services for specialized courses and activities.

9.1.4 The persons in charge of computing services must be experienced staff, and their profiles should be related to the area.

- State the necessary profile and experience of the staff in charge of computing services

9.1.5 The design, equipment and operation of computing services must take into account the views of the professors participating in the program.

- Are the views of the professors participating in the program taken into account for the design, equipment and operation of computing services? Yes No

In which way?

9.1.6 Classrooms¹⁴ should be functional, have sufficient space for each student and have adequate hygiene, security, lighting, ventilation, temperature and noise isolation and furniture conditions.

¹⁴ These are applied mainly to face-to-face programs. In the case of mixed learning or e-learning programs, a platform that enables virtual classrooms should be guaranteed, and these ones must be described, although it can also be considered to have support physical centers for students who are nearby, and they must have the features requested here.

- Information about classrooms according to dimensions and capacities.

TYPE OF CLASSROOM (CLASSES, PROJECTION, AUDITORIUMS, MEETING ROOMS)	AMOUNT	SUP. In M ²	CAP. MAX.	FEATURES		
				A _____	E _____	I _____
				B _____	F _____	J _____
				C _____	G _____	K _____
				D _____	H _____	L _____
				A _____	E _____	I _____
				B _____	F _____	J _____
				C _____	G _____	K _____
				D _____	H _____	L _____
				A _____	E _____	I _____
				B _____	F _____	J _____
				C _____	G _____	K _____
				D _____	H _____	L _____

INDICATIONS TO FILL OUT THE CHARACTERISTICS:			
Letters "A" to "D". Mark with an X when there is:			
A: Palette chairs	B: Work tables	C: Isoptics	D: Professor's podium
Letters "F" to "L". Mark with a Y if it is ideal, B if it is good, R if fair and M if it is bad:			
E: Blackboard	F: Lighting	G: Noise isolation	H: Ventilation
I: Temperature control	J: Space	K: Furniture	L: Electrical Connections

9.1.7 The number of classrooms will be sufficient to provide for the teaching of courses that are scheduled each school period.¹⁵

- Information on the programming of courses in the classrooms described in the previous criterion in the last two class periods.

PERIOD	COURSE	GROUP	NO. OF STUDENTS	TYPE OF CLASSROOM
--------	--------	-------	-----------------	-------------------

¹⁵ These are applied mainly to face-to-face programs. In the case of mixed learning or e-learning programs, a platform that enables virtual classrooms should be guaranteed, and these ones must be described, although it can also be considered to have support physical centers for students who are nearby, and they must have the features requested here.

9.1.8 ¹⁶The program must have at least one classroom with computer and audiovisual equipment permanently installed that can be used for normal and specialized courses.

- Number of classrooms with computer equipment _____
- Number of classrooms with audiovisual equipment _____

9.1.9 Full-time, three-quarters and half-time professors must have cubicles. The rest of the professors must have places appropriate to their work. (See footnote on page 16)

- What type of professors have cubicles?

- What other type of place exists for the rest of the professors to work?

9.1.10 There must be spaces for advising services to students. (See footnote on page 16)

- Are there spaces for advisory services to students? If yes, please describe briefly

9.1.11 The program should have Auditoriums and/or rooms, properly conditioned for academic activities, research, and culture preservation and outreach.

¹⁶ Criteria 9.1.8 to 9.1.13 apply for face-to-face programs. For mixed or distance learning programs, it should be ensured that professors or facilitators and students have services of this type that enable them to develop their teaching or learning as applicable, that is why the program should describe how to guarantee them and in the case of student support centers, describe if these services are available as requested in each of these criteria.

- Provide a list of the auditoriums and/or rooms for academic activities, research, and culture preservation and outreach, describing their main characteristics and use in relation to these activities.

9.1.12 In the spaces referred to in the above mentioned criteria, there should be a comfortable place for every ten students enrolled in the program, providing the adequate hygiene and safety conditions. (See footnote 16).

For the spaces mentioned above, include:

- Number of places available: _____
- Offers adequate hygiene conditions: Yes No
- Offers adequate safety conditions: Yes No

9.1.13 Health facilities for the students and faculty of the program should be appropriate. (See footnote 16).

- Do you consider sanitary facilities to be appropriate? Yes No

If yes, justify your response.

9.2 Equipment. *The recommended software for each of the subjects must be available for use by students and professors.*

9.2.1 For each subject, mention the software used and if it is available within the institution.

Subject	Software	Describe availability

9.2.2 Every program must have at least the following software: Programming languages, CASE tools, database managers and software in general.

- Describe the following elements of software infrastructure, including versions and number of licenses:

Programming Languages	CASE Tools	Databases managers	Software in General

9.2.3 The program must have available within the institution the computer equipment indispensable for the practices of the subjects that require it.

- Number of students enrolled in the program: _____
- Explain in which manner it is ensured that computer equipment required will be available for the performance of practices in programs areas as required:

Subject	Computer Equipment	Describe availability

9.2.4 There must be a sufficient number of computers available and accessible to students of the program depending on the number of hours of computing infrastructure required by the curriculum.

- Provide the following information

Hours required by curriculum in a period	Available hours of computing infrastructure per period

9.2.5 There must be at least three different computing platforms available and accessible for students and teaching staff of the program.

- Describe the types of computing platforms available for students and teaching staff of the program:

9.2.6 The program must have the appropriate printing capabilities for the students and faculty.¹⁷

- Describe printing capabilities available for students and teaching staff of the program:

9.2.7 There should be at least one local area network and a wide network, with the appropriate software for the most common applications of the program.¹⁸

- Computer equipment in the Institution is connected in network? Yes No

If yes, indicate:

- a) What computer equipment (servers and clients) supports the network and what are its characteristics?

- b) Is there Internet access through the network?

For professors Yes No

For students Yes No

- c) If yes to the above question, what is the average time available for each student to access the Internet per week? _____

- d) what software packages are there in the academic network of the institution to support the program being evaluated?

¹⁷ The academic program must ensure the printing service in those physical spaces that the institution has provided for student support.

¹⁸ The academic program must ensure the network service in those physical spaces that the institution has provided for student support,

9.2.8 There must be access to the use of equipment and manuals, broad and flexible schedules to meet the demand, as well as trained support staff. Equipment must have good maintenance and plans of adaptation to technological changes.

- Describe the documentation for hardware and software systems available to students and professors. Explain how students and professors have adequate access to documentation, as well as the time that it is available.

9.2.9 Computing Services must be functional and have a suitable maintenance program.¹⁹

Service hours provided by computing services are the following:

- Institutional: from _____ to _____; on _____ days:
- In the Academic Unit: from _____ to _____; the _____ days:
- The Program _____ from _____ to _____; the _____ days:
- If there is support staff, please indicate in each case the amount, schedules and functions.

- What kind of staff is available to install, maintain, and manage the institution hardware, software and networks?

¹⁹ Computing services at least in those spaces intended as support for students and facilitators or professors must be guaranteed.

9.2.10 Computing Services must have regulations that ensure its proper functioning and are available to users.

- Are there regulations for computing services? Yes No
- If yes, are they available for users? Yes No

Please provide a copy.

9.2.11 The program professors should be provided with computer equipment that allows them to adequately perform their function. In the case of full-time professors, these should be provided with a computer for their exclusive use.

- Describe the computer facilities available to professors of the program. Include resources of this type available for the offices of the academic staff.

9.2.12 Computing Services must have adequate technical support.

- Are there full-time systems management technicians? Do students participate by supporting technical support activities?

- Is this level of support adequate? _____ Justify your answer:

If the answer is no, describe the existing constraints:

9.2.13 It is necessary that there are records and statistics concerning the use of computer equipment, to determine utilization rates and indicators on service quality.

- Are there computing services user records? Yes No

If yes, indicate the average number of daily users served in the last three periods:

Period	General Users	Program users

9.2.14 Specifically, the technical staff is sufficient and has the right profile to provide support, not only for the telecommunications infrastructure and networks, but also for the development of applications, incorporation of emerging technologies, management and hosting, web development, data mining, intelligent solutions, process re-engineering through the use of ICT and the management of the proprietary learning and technology platform that supports the educational model, either for distance or face-to-face learning.

YES [] NO
[]

In any case, briefly explain: _____

Provide the resume of each one of them, as well as a list of their names, academic degrees, certifications, years of experience in the area of competence related to what is pointed out here.

10 Administrative management and funding

10.1 Planning, Evaluation, and organization. *The faculty, school, department or division have planning, evaluation and organization instruments that will allow it to have an efficient and effective administrative management.*

Planning.

10.1.1. Is there an Institutional Development Program (IDP) and with programs in the short and medium term derived from IDP?

Yes No

If yes, summarize main criteria.

10.1.2. The planning of the program must be carried out by the academic staff.

- Program planning (including budgetary plan) is carried out by its academic staff?
Yes No

If so, describe how planning is performed:

Evaluation.

10.1.3. Are comprehensive evaluations systematically performed for the fulfillment of the goals of the programs in the long, medium and short term to allow for the decision-making process?

Yes No

If so, describe how planning is performed:

Organization.

10.1.4 Does the institution have established clear and precise regulations that relate the academic administrative activities and is operationalized through regulations and manuals (organization and procedures)?

Yes No

If yes, provide a copy of it.

10.2 Administrative, Support, and Service Human Resources. *The institution must evaluate the academic and administrative function and it shall be mandatory for it to have the most qualified staff for academic activities management.*

10.2.1 Does the Institution have established norms that define the requirements for those who exercise academic-administrative functions? Yes No

If yes, explain what they are.

10.2.2 Academic activities should not be subordinated to administrative processes.

- In practice, are there academic activities subordinated to administrative processes? Yes No

If yes, summarize main criteria.

10.3 Financial resources. *There should be clear criteria established for the determination of expenses on maintenance and operation, of laboratories, workshops, and other infrastructure.*

10.3.1 When in the institution there is a defined budget allocation policy, the program must make an analysis of it and see if it is consistent with program needs. If not, an appropriate model of program needs must be elaborated, and it shall consider, among other things, wages, improvement of the academic staff, operating expenses, investment, purchase of new equipment and replacement of the existing one, as well as additions to the physical spaces.

- The institution has clearly defined policies and criteria for program budget allocation. Yes No

If yes, indicate what they are.

- Have analyses been made to see if they are congruent with the institution needs? Yes No

If yes, list the major decisions that have been made in relation to budget allocation policies:

10.3.2 The program must have explicitly a budgetary plan in line with its operation needs and development plans.

- The program has a budgetary plan in line with its operation needs and development plans: Yes No

If yes, provide a copy of it.

10.3.3 Are there clear criteria established for the determination of expenses on laboratory and workshop maintenance and operation? Yes No

If yes, summarize main criteria.

10.3.4 The program must have clearly defined its overall operating costs through expenditure on wages and salaries of personnel involved, as well as its operating expenses and investments for the purchase of new equipment and replacement of existing one.

- It will be very convenient to present an analysis of the operation costs of the program (wages and salaries, operation and maintenance expenses, depreciation of equipment, estimated expenditure by facilities leasing, etc.) and to link this with benefits obtained (Number of students served, services provided, etc.). Although this analysis is not easy to carry out, nor can it be done accurately, since some estimates are subjective, efforts should be made to obtain approximations that are very useful for resource distribution or redistribution.

ANNEX 1

Students who passed EGEL-CENEVAL

Generation	Number of graduant students (1)	Number of students who took the test (2)	Application Rate (2)/(1)	Number of students who passed (3)	Approval Rate (3)/(2)

ANNEX 2**Faculty, school, department or division financial structure**

Concept	Amount \$	%
Resources allocated by the Institution		
Self-generated resources		
Donations		
Other		
Total		100%

ANNEX 3

Recommendation Follow-up

Academic Program	
Accreditation process date	

Recommendations to the academic program			
Criterion	Indicator	Recommendation	Deadline for compliance

Annex 3 concerning the recommendations is for the instrument that will be used in the field visit.

ANNEX 4

**PROFILE CROSS-CURRICULAR AND SPECIFIC COMPETENCIES ASSESSED BY
CONAIC
DEFINED BY ANIEI AND CONAIC**