Anejo 2 – Protocolo para Adjudicación de Créditos de Electivas Técnicas en CIIC/INSO

This document summarizes the protocol for when to accept courses as technical electives (TE) in the academic record of students in B.S. in Software Engineering (INSO) or B.S. in Computer Sciences and Engineering (CIIC).

In the CIIC/INSO curriculums, the number of credits required as TE credits are as shown in the following table.

Program	Curriculum	
	2015-2019	**2020-Present**
CIIC	15 credits	9 credits
INSO	6 credits	3 credits

In what follows, we will use the following terms:

Traditional Course: A traditional course is understood to be any course that has a fixed defined syllabus, with a set of specific fixed topics on a particular subject area. All such courses formally included in the list of certified technical electives for the program to which the student belongs will be accepted as TE in their academic record.

Non-traditional course: Non-traditional course means any course for which there is no defined syllabus of specific fixed topics on a subject area. This group includes: COOP, Undergraduate Research, Special Topics, etc.

When is a Course Accredited as a Technical Elective?

For students in CIIC or INSO, the following table describes the protocol for when to accept a course as a technical elective in a student's academic record.

Course	When Accepted?	Maximum Credits that Can be Accepted as Technical Electives for a Particular Student
Traditional	If it has been previously evaluated by the CIC Academic Affairs Committee and is already explicitly included in the list of traditional courses accepted as technical electives for the particular program.	Number of credits of the course.
COOP	When the final evaluation submitted by the student's supervisor indicates so.	3 credits
Undergraduate Research at CIIC or INSO	When the final evaluation submitted by the professor in charge recommends it.	3 credits
Special Topics	When a special topic is proposed for this course, the CIC	3 Credits

Course	When Accepted?	Maximum Credits that Can be Accepted as Technical Electives for a Particular Student
CIIC 5995	Academic Affairs Committee will examine the specific syllabus submitted by the proponent. Whenever that committee recommends that a proposed topic is suitable for this course, then it automatically means that it could also be accepted as technical elective credits.	

Traditional Courses Which Have Been Established as TE

The CSE department has already established a list of traditional courses from which the student can choose to fulfill the technical electives requirements in his/her academic program. We refer to this as the **TE List**. The following table shows the full TE list for both academic programs. It also includes the equivalent ICOM courses, if any, which are also considered part of the list; however, these only apply to students that have that ICOM course prior to his/her transfer to a program in our department. The last two columns indicate for which of the two academic programs the course can be counted as a technical elective.

CIIC/INSO Course	Course Title	Equivalent ICOM Course[1]	Credits	Academic Program	
				CIIC	INSO
CIIC 5018	Cryptography and Network Security	ICOM 5018	3	Yes	Yes
CIIC 5019	High Performance Computing	ICOM 6025	3	Yes	Yes
CIIC 5015	Artificial Intelligence	ICOM 5015	3	Yes	Yes
CIIC 5017	Operating Systems and Network Administration and Security	ICOM 5017	3	Yes	Yes
CIIC 5029	Compiler Design	ICOM 4029	3	Yes	Yes
CIIC 5045	Formal Languages and Automata	-	3	**No**	Yes
CIIC 5110	Bioinformatics Algorithms	-	3	Yes	Yes
CIIC 5120	Virtual Machines	-	3	Yes	Yes
CIIC 5130	Cloud Computing Infrastructure	-	3	Yes	Yes
CIIC 5140	Big Data Analytics	-	3	Yes	Yes
INSO 4115	Software Requirements	-	3	Yes	**No**
INSO 4116	Software Design	-	3	Yes	**No**
INSO 4117	Software Testing	-	3	Yes	**No**

---

[1] Applies only to students that transfer to our programs and who have taken the particular course prior to that transfer. This equivalence is not accepted for students who already are in one of our programs. An exception to this would be in the case of students that had attempted such a course prior to transferring to one of our programs but failed, and therefore need to repeat the course under the same code in order to remove the failing grade.

CIIC/INSO Course	Course Title	Equivalent ICOM Course[1]	Credits	Academic Program	
				CIIC	INSO
INSO 4118	Software Project Management	ICOM 4066	3	Yes	Yes
INSO 5111	Introduction to Human-Computer Interaction	INEL 6095	3	Yes	Yes

List of Non-Traditional Courses that Can Be Counted as TE

CIIC/INSO Course	Course Title	Equivalent ICOM Course[2]	Credits	Academic Program	
				CIIC	INSO
CIIC 4998	Undergraduate Research in Computer Science and Engineering	ICOM 4998	1-3	Yes	Yes
CIIC 4995	COOP for CIIC	ICOM 4995	1-3	Yes	Yes
INSO 4998	Undergraduate Research in Software Engineering	ICOM 4998	1-3	Yes	Yes
INSO 4995	COOP for INSO	ICOM 4995	1-3	Yes	Yes
CIIC 5995	Selected Topics in Computer Science and Engineering	ICOM 5995	1-3	Yes	Yes

Courses from Other Programs

The CIC Academic Affairs Committee may accept that a course outside the department can be counted as a technical elective for a student through prior evaluation of its syllabus and determination of whether the topics covered are considered of technical relevance to the computing discipline. Every student who takes a traditional course outside the department, and with the intention for it to be counted as credits in technical electives, must ensure that it has been evaluated and approved as such in our department before enrolling in it. Otherwise, the particular course can only be counted as a free elective in the student's academic record.

Non-traditional courses taken outside of our department will not be accepted as technical electives. The exception to this is if the student is a transfer student and a course of this type taken in another department prior to transfer is accepted as a technical elective.

Grade Requirement

The passing grade for a course that is counted as technical elective for a student in CIIC or INSO is **C** or more. Any such course in which the student gets a D shall not be accredited as technical elective in the academic record of the student.

---

[2] Applies only to students that transfer to our programs and who have taken the particular course prior to that transfer. Under any other circumstance, these courses can only be counted as free electives.

Other Important Rules that Apply

1. The combination of COOP/INTD, cannot exceed 3 credits in the count of Technical Electives credits for a student. Additional credits in that combination can only count as free elective credits.

2. Undergraduate research (xxxx 4998) cannot exceed 3 credits in the count of Technical Electives credits for a student. Additional credits in undergraduate research can only count as free elective credits.

3. The maximum number of credits to be accredited as Technical Electives credits for all CIIC 5995 (or similar, such as ICOM 5995, if it applies) cannot exceed 3 credits; any exceeding number can only count as free elective credits.

4. The total number of credits counted as technical electives in the academic record of a student is formally computed as follows:

> **Minimum** { number of TE electives credits required in the program, TEcrs } ,
>
> where TEcrs = **minimum**{3, COOP/INTD credits} + **minimum**{3, xxxx 4998 credits}
>
>   + **minimum**{3, xxxx 5995 credits}
>
>   + (Number of Credits in Traditional Courses from the TE List)

Departamento de Ciencia e Ingeniería de Computación
Colegio de Ingeniería – UPR Mayagüez
Equivalencias que Aplican a Traslados a Programas CIIC/INSO

Anejo I – Equivalencia de Cursos para Traslados Internos a CIIC/INSO

A todo estudiante que se transfiera a alguno de los programas académicos que alberga el departamento de Ciencia e Ingeniería de la Computación (BS CIIC – Código 508 y BS INSO – Código 509) se le acreditarán cursos previamente aprobados de otros programas o departamentos según se describe en las tablas siguientes. Las equivalencias automáticas no aplicarán a estudiantes que ya estén clasificados oficialmente como estudiantes de de CIIC/INSO (508/509).

En cualquiera de los casos, para que la acreditación sea válida, el estudiante deberá haber aprobado el curso tomado con nota de C ó mejor.

Tabla 1. Equivalencias para el curso medular CIIC 3011 – Introduction to Programming I. Aplica a todo estudiante que se haya trasladado antes del verano 2020.

Curso a Acreditar	Curso Medular por el que se Acredita
INGE 3016 – Algorithms and Computer Programming (3 crs)	CIIC 3011 – Introduction to Programming I (3 crs)
COMP 3010 – Introductoin to Computer Programming I (3 crs)	CIIC 3011 – Introduction to Programming I (3 crs)

Tabla 2. Equivalencias para el curso medular CIIC 3015 – Introduction to Programming I. Aplica a todo estudiante que se haya trasladado a partir del verano 2020. En ambos casos incluidos en la Tabla 2, el estudiante deberá aprobar 1 crédito adicional para equiparar los 4 créditos del curso CIIC 3015. Para esto, puede usar cualquier curso de nuestro departamento que haya sido aprobado como curso aceptable para Electiva Técnica o Profesional. Dicho curso no podrá acreditarse también como créditos en electivas técnicas para el estudiante.

Curso a Acreditar	Curso Medular por el que se Acredita
INGE 3016 – Algorithms and Computer Programming (3 crs)	CIIC 3015 – Introduction to Programming I (4 crs)
COMP 3010 – Introductoin to Computer Programming I (3 crs)	CIIC 3015 – Introduction to Programming I (4 crs)

Tabla 3. Equivalencias de cursos del programa ICOM (Ingeniería de Computadoras) o del probama INEL (Ingeniría Eléctrica) que maneja el Departamento de Ingeniería Eléctrica y de Computadoras según se indica en las siguientes tablas.

Curso a Acreditar	Curso Medular por el que se Acredita
ICOM 4075 – Fundamentals of Computing (3 crs)	CIIC 3075 – Foundations of Computing (3 crs)
INEL 4205	CIIC 3081 – Computer Architecture I (3 credits)
ICOM 4015 – Advanced Programming (4 crs)	CIIC 4010 – Advanced Programming (4 crs)
ICOM 4035 – Data Structures (4 crs)	CIIC 4020 – Data Structures (4 crs)