School of Computer Science https://ucontinental.edu.pe/
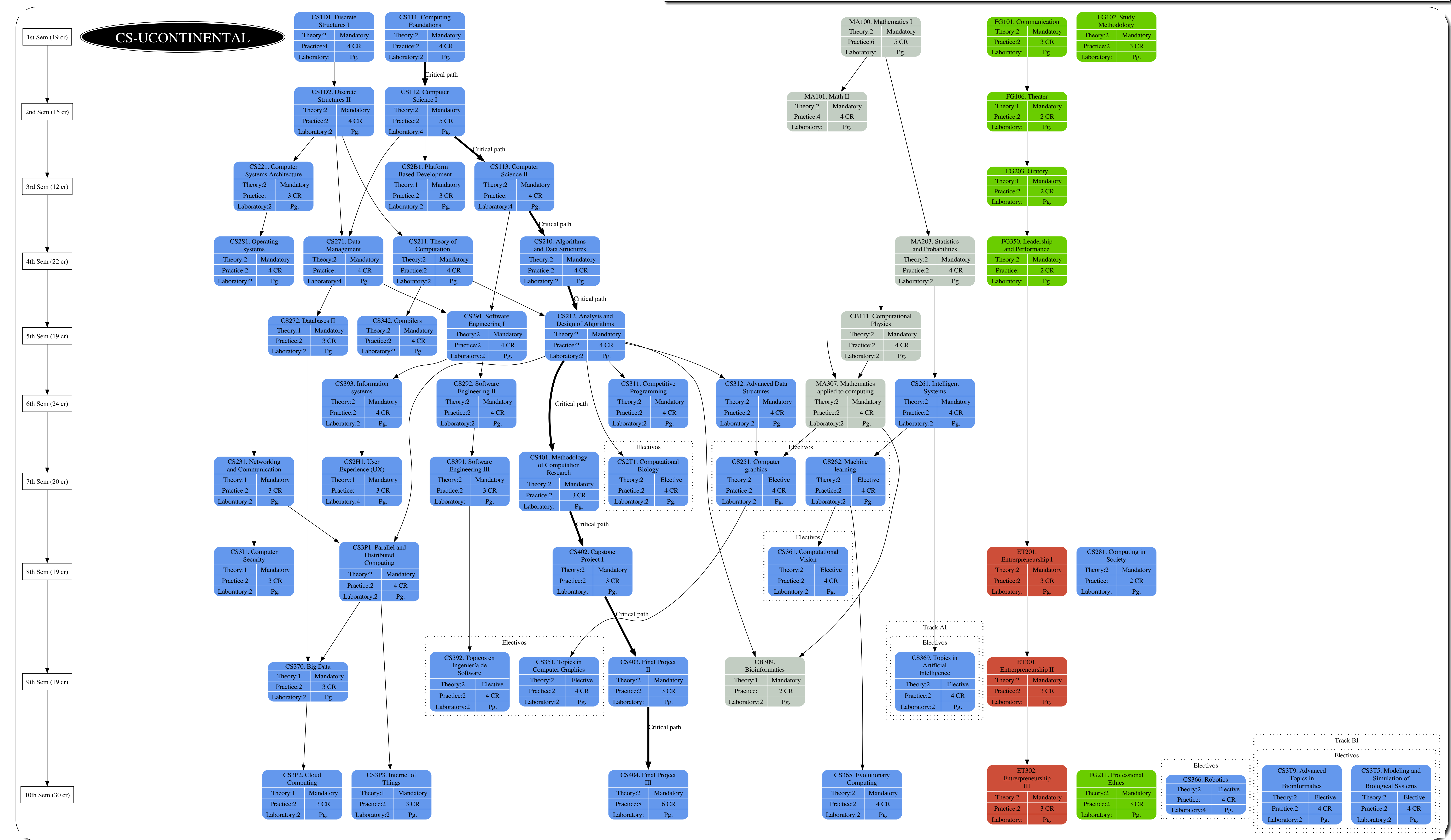
Universidad Continental

Mission: To contribute to the scientific, technological and technical development of the country forming competent professionals oriented to the creation of new science and computational technology, as engine that impels and consolidates the software industry based on scientific research and technological in innovative areas, forming, IN OUR professionals, a set of skills for solving computational problems with a social commitment.

Definition: The professional profile of this professional program can be better understood from figures on the right side. This professional has Computing as the center of his studies. That is, it has computing as an end and not as a means. According to the definition of this area, this professional is called directly to be a promoter of the development of new computational techniques that can be useful at local, national and international level.

Our professional profile is aimed at generating jobs through permanent innovation. Our professional training has three fundamental pillars: a content according to ACM/IEEE-CS Computing Curricula CS2013 and CC2020, a marked orientation to innovation and human/soft skills.
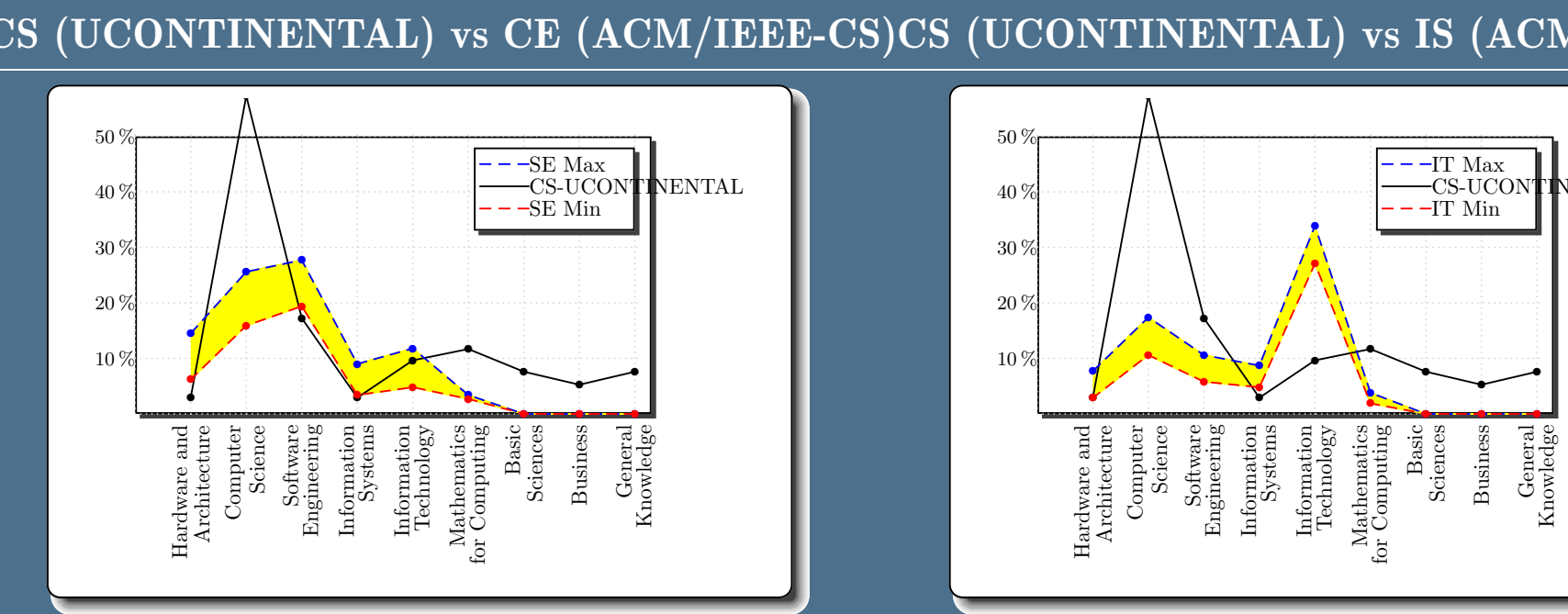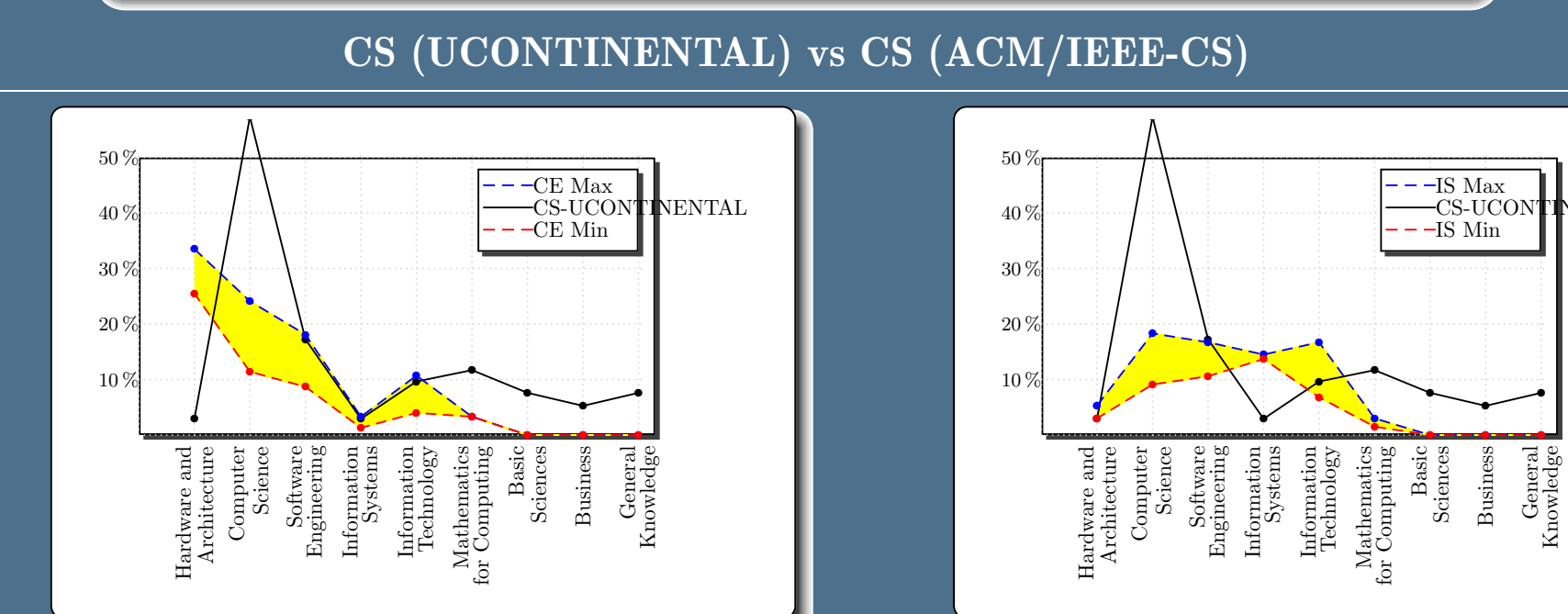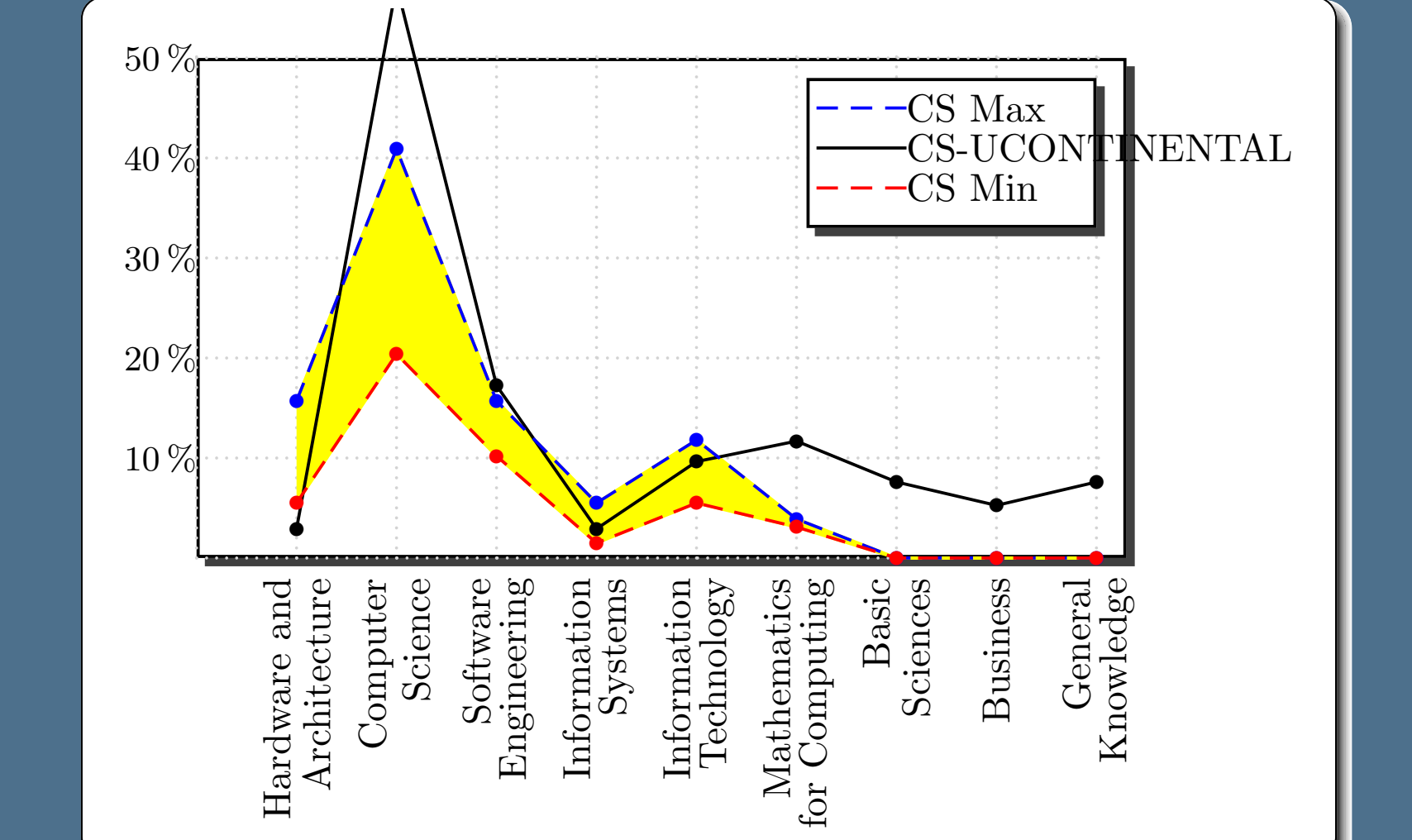

CS (UCONTINENTAL) vs CS (ACM/IEEE-CS)

CS (UCONTINENTAL) vs CE (ACM/IEEE-CS) CS (UCONTINENTAL) vs IS (ACM/IS)

CS (UCONTINENTAL) vs SE (ACM/IEEE-CS) CS (UCONTINENTAL) vs IT (ACM/IT)

CS-UCONTINENTAL

1st Sem (19 cr)

CS1D1. Discrete Structures I — Theory:2 / Practice:4 — Mandatory — 4 CR — Laboratory: — Pg.

CS111. Computing Foundations — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory: — Pg.

MA100. Mathematics I — Theory:2 / Practice:6 — Mandatory — 5 CR — Laboratory: — Pg.

FG101. Communication — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory: — Pg.

FG102. Study Methodology — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory: — Pg.

2nd Sem (15 cr)

CS1D2. Discrete Structures II — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

CS112. Computer Science I — Theory:2 / Practice:4 — Mandatory — 5 CR — Laboratory:4 — Pg.

MA101. Math II — Theory:2 / Practice:4 — Mandatory — 4 CR — Laboratory: — Pg.

FG106. Theater — Theory:1 / Practice:2 — Mandatory — 2 CR — Laboratory: — Pg.

3rd Sem (12 cr)

CS221. Computer Systems Architecture — Theory:2 / Practice: — Mandatory — 3 CR — Laboratory:2 — Pg.

CS2B1. Platform Based Development — Theory:1 / Practice:2 — Mandatory — 3 CR — Laboratory:2 — Pg.

CS113. Computer Science II — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:4 — Pg.

FG203. Oratory — Theory:1 / Practice: — Mandatory — 2 CR — Laboratory: — Pg.

4th Sem (22 cr)

CS2S1. Operating systems — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

CS271. Data Management — Theory:2 / Practice: — Mandatory — 4 CR — Laboratory:4 — Pg.

CS211. Theory of Computation — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

CS210. Algorithms and Data Structures — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

MA203. Statistics and Probabilities — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

FG350. Leadership and Performance — Theory:2 / Practice: — Mandatory — 2 CR — Laboratory:2 — Pg.

5th Sem (19 cr)

CS272. Databases II — Theory:1 / Practice:2 — Mandatory — 3 CR — Laboratory:2 — Pg.

CS342. Compilers — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

CS291. Software Engineering I — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

CS212. Analysis and Design of Algorithms — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

CB111. Computational Physics — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

6th Sem (24 cr)

CS393. Information systems — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory: — Pg.

CS292. Software Engineering II — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory: — Pg.

CS311. Competitive Programming — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory: — Pg.

CS312. Advanced Data Structures — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory: — Pg.

MA307. Mathematics applied to computing — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory: — Pg.

CS261. Intelligent Systems — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

7th Sem (20 cr)

CS231. Networking and Communication — Theory:1 / Practice:2 — Mandatory — 3 CR — Laboratory:2 — Pg.

CS2H1. User Experience (UX) — Theory:1 / Practice: — Mandatory — 3 CR — Laboratory:4 — Pg.

CS391. Software Engineering III — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory: — Pg.

CS401. Methodology of Computation Research — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory: — Pg.

Electivos
CS2T1. Computational Biology — Theory:2 / Practice:2 — Elective — 4 CR — Laboratory:2 — Pg.

CS251. Computer graphics — Theory:2 / Practice:2 — Elective — 4 CR — Laboratory:2 — Pg.

CS262. Machine learning — Theory:2 / Practice:2 — Elective — 4 CR — Laboratory:2 — Pg.

8th Sem (19 cr)

CS3I1. Computer Security — Theory:1 / Practice:2 — Mandatory — 3 CR — Laboratory:2 — Pg.

CS3P1. Parallel and Distributed Computing — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

CS402. Capstone Project I — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory: — Pg.

Electivos
CS361. Computational Vision — Theory:2 / Practice:2 — Elective — 4 CR — Laboratory:2 — Pg.

ET201. Entrepreneurship I — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory: — Pg.

CS281. Computing in Society — Theory:2 / Practice: — Mandatory — 2 CR — Laboratory: — Pg.

9th Sem (19 cr)

CS370. Big Data — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory:2 — Pg.

Electivos
CS392. Tópicos en Ingeniería de Software — Theory:2 / Practice:2 — Elective — 4 CR — Laboratory:2 — Pg.

CS351. Topics in Computer Graphics — Theory:2 / Practice:2 — Elective — 4 CR — Laboratory:2 — Pg.

CS403. Final Project II — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory: — Pg.

CB309. Bioinformatics — Theory:1 / Practice: — Mandatory — 2 CR — Laboratory:2 — Pg.

Track AI - Electivos
CS369. Topics in Artificial Intelligence — Theory:2 / Practice:2 — Elective — 4 CR — Laboratory: — Pg.

ET301. Entrepreneurship II — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory: — Pg.

10th Sem (30 cr)

CS3P2. Cloud Computing — Theory:1 / Practice:2 — Mandatory — 3 CR — Laboratory:2 — Pg.

CS3P3. Internet of Things — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory: — Pg.

CS404. Final Project III — Theory:2 / Practice:8 — Mandatory — 6 CR — Laboratory: — Pg.

CS365. Evolutionary Computing — Theory:2 / Practice:2 — Mandatory — 4 CR — Laboratory:2 — Pg.

ET302. Entrepreneurship III — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory: — Pg.

FG211. Professional Ethics — Theory:2 / Practice:2 — Mandatory — 3 CR — Laboratory: — Pg.

Electivos
CS366. Robotics — Theory:2 / Practice: — Elective — 4 CR — Laboratory:4 — Pg.

Track BI - Electivos
CS3T9. Advanced Topics in Bioinformatics — Theory:2 / Practice:2 — Elective — 4 CR — Laboratory:2 — Pg.

CS3T5. Modeling and Simulation of Biological Systems — Theory:2 / Practice:2 — Elective — 4 CR — Laboratory:2 — Pg.

Critical path

Codificación de cursos del área de Ciencia de la Computación

Nivel: 1xx = introductorio, 2xx = intermedio, 3xx = avanzado, 4xx = proyecto final de carrera

Tema (segundo dígito/letra)
1 = Algoritmos y Complejidad (AL)
2 = Arquitectura y Organización (AR)
3 = Redes y Comunicaciones (NC)
4 = Lenguajes de Programación (PL)
5 = Gráficos y Visualización (GV)
6 = Sistemas Inteligentes (IS)
7 = Gestión de Información (DM)
8 = Asuntos Sociales y Práctica Profesional (SP)
9 = Ingeniería Software (SE)

B = Desarrollo Basado en Plataforma (PBD)
C = Ciencia Computacional (CN)
D = Estructura Discretas (DS)
F = Fundamentos del Desarrollo de Software (SDF)
H = Interacción Humana Computador (HCI)
I = Aseguramiento y Seguridad de la Información (IAS)
P = Computación Paralela y Distribuida (PD)
S = Sistemas Operativos (OS)
U = Fundamentos de Sistemas (SF)

Identificador numérico en el área

CS2701

Perfil internacional de CS

Problemática Organizacional y Sistemas de Información

Tecnologías de Aplicación

Tecnologías y Métodos de Software

Infraestructura de Sistemas

Arquitectura y Hardware Computacional

Teoría Principios Innovación — Más Teórico — Más Aplicado — Aplicación Despliegue Configuración

CS

Créditos por área

CS (154) 77.3% — ET (9) — FG (1) 7.5% — CB (2) 10.5%

Créditos por nivel

Intermedio (65) 34.7% — Introductorio (42) 22.4% — Proyecto Final (15) 8.0% — Avanzado (65) 34.7%

Educational Objectives

After five years of graduation of our school, our professionals must be able to:

1. Meet and exceed the work expectations defined by the work environment.

2. Perform as a member or leader of a specialized and multidisciplinary work team.

3. Propose solutions to the work context, where he/she works, based on the implementation or improvement of the state of the art in Computer Science and related areas.

4. Effectively communicate technological proposals to people of different levels of knowledge and different social environments.

5. Update and adapt to new computational knowledge and different labor environments, autonomously or by means of complementary studies.

6. Demonstrate a clear understanding of the consequences arising from technological creations in aspects such as: social, ethical, human, moral, legal, environmental, economic, among others.
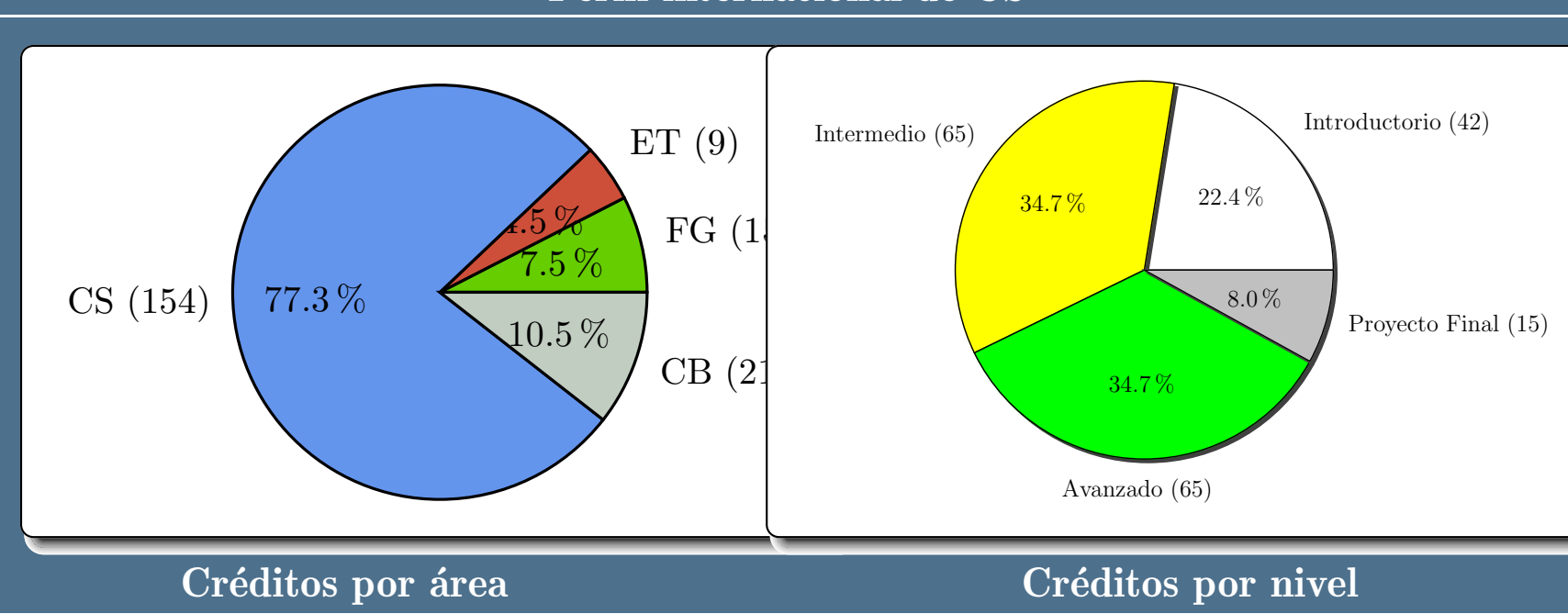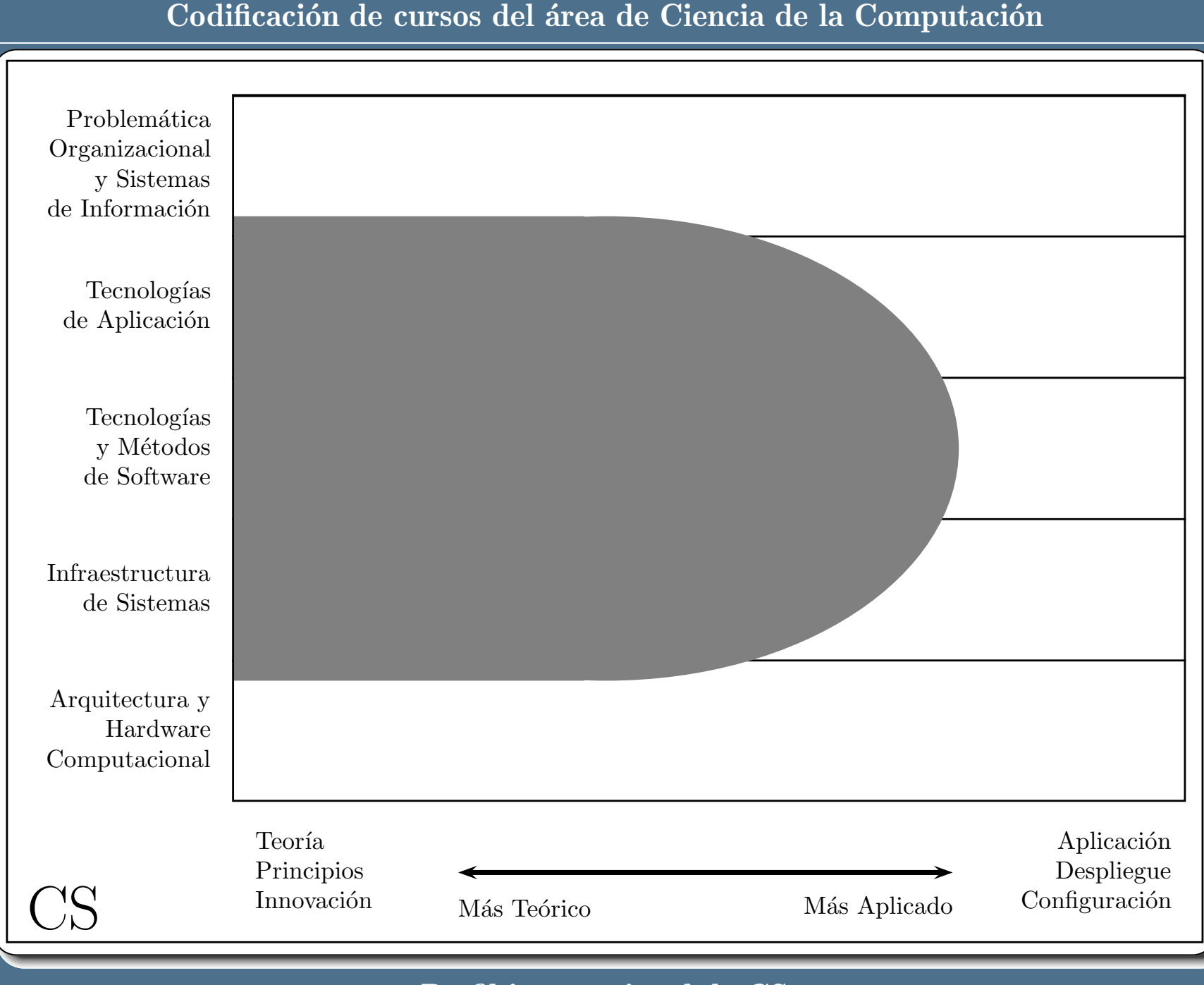
Skill/Course

1) Analyze a complex computing problem and to apply principles of computing and other relevant disciplines.
2) Design, implement and evaluate a computing-based solution.
3) Communicate effectively in a variety of professional contexts.
4) Recognize professional responsibilities and make informed judgments.
5) Function effectively as a member or leader of a team.
6) Apply computer science theory and software development fundamentals.
7) Develop computational technology for the well-being of all, contributing with human formation, scientific, technological and professional skills to solve social problems of our community.
8) Transform your knowledge into technological ventures.
9) Apply knowledge of the humanities in their professional work.
10) Put technology at the service of the human being.

Definición de Objetivos de Aprendizaje (*Learning Outcomes*)

Nivel 1 Familiarizarse (*Familiarity*): El estudiante **entiende** lo que un concepto es o qué significa. Este nivel de dominio **se refiere a un conocimiento básico** de un concepto en lugar de esperar instalación real con su aplicación. Proporciona una respuesta a la pregunta: **¿Qué sabe usted de esto?**

Nivel 2 Usar (*Usage*): El alumno es capaz de **utilizar o aplicar** un concepto de una manera concreta. El uso de un concepto puede incluir, por ejemplo, apropiadamente usando un concepto específico en un programa, utilizando una técnica de prueba en particular, o la realización de un análisis particular. Proporciona una respuesta a la pregunta: **¿Qué sabes de cómo hacerlo?**

Nivel 3 Evaluar (*Assessment*): El alumno es capaz de **considerar un concepto de múltiples puntos de vista** y/o **justificar la selección de un determinado enfoque** para resolver un problema. Este nivel de dominio implica más que el uso de un concepto; se trata nivel la posibilidad de seleccionar un enfoque adecuado de las alternativas entendidas. Proporciona una respuesta a la pregunta: **¿Por qué hiciste eso?**

Generado por Ernesto Cuadros-Vargas (ecuadros AT spc.org.pe), Sociedad Peruana de Computación (http://www.spc.org.pe/), basado en la *Computing Curricula* de IEEE-CS (http://www.computer.org) y ACM (http://www.acm.org/)