BASIC SCIENCES

INTELLIGENT COMPUTING ENGINEERING 2017

OBJECTIVE:

To train engineers in Intelligent Computing, with sound knowledge of mathematical and theoretical foundations of Computer Science, Artificial Intelligence and Software Industry, through the design and creation of environments, facilities and innovative computer applications, construction basic software and applications, developing theories and practices of complex realities models and entrepreneurship in order to provide efficient computational solutions to real and complex problems; assimilate and adapt new technologies and new methodologies for software development, participate in multidisciplinary teams and adapt to the rapid changes occurring in Computer Science and Software Industry, with a high sense of social responsibility, innovative and humanist.

APPLICANT PROFILE:

Based on the institutional regulations, the applicant will apply the entrance exam of knowledge and skills to achieve the objectives of the curriculum. Furthermore, it is desirable to display the following characteristics:

- Analytical skills and abstract thinking
- Honesty
- academic and social responsibility
- self-learning
- Availability for teamwork
- Commitment to vocational training
- Proactivity
- Creativity

GRADUATE PROFILE:

Knowledge

- Programming paradigms and languages of software systems
- Artificial intelligence
- Software Systems and Software Industry
- Structures and computational algorithms
- Quality models in the organizations
- Cloud computing
- Mobile computing
- Computer Architecture
- Database software
- Mathematics for Engineering
- Theories of automata and languages
- business environments
- legal and ethical for the provision and contract programming services, software systems in the public sector and the private aspects, as well as for the protection of intellectual property.
- English language at a basic level

. Abilities

- Construction of algorithms, software and software quality through methodologies and programming languages in order to provide efficient solutions to problems through artificial intelligence.
- Using the methods and approaches of artificial intelligence and pattern recognition to solve the problems with methods and advanced techniques.
- oral and written communication skills that allow them to communicate their ideas, present the results achieved, team work, writing reports and articles.

- Identification, modeling and implementation of an efficient solution to a real problem through computational intelligent techniques.
- Development and implementation of software for troubleshooting using the programming language, operating system and appropriate architectures.
- Application of scientific method as a means to solve problems of computer science that allow you to test hypotheses about algorithmic behavior.
- Software development both artificial intelligence and software engineering to enable the creation of software development companies.
- Application of standards and legal systems in different contexts of performance, specifically in software development and artificial intelligence.
- Listening, speaking, reading and writing in English at a basic level for easy access, exchange and understanding of information produced in that language.

attitudes

- Collaboration
- Commitment
- Creativity
- Criticism and self-criticism
- Leadership
- Entrepreneurial spirit
- Organization
- Initiative
- Flexibility

Values

- Discipline
- Autonomy
- Quality
- Innovation
- Professional ethics
- Humanism
- Pluralism
- Respect
- Social responsability
- Honesty
- Empathy

WORK FIELD:

The graduate of Intelligent Computing Engineering can develop professionally in all kinds of organizations, both public and private with a need to process information; but also for those looking to improve their quality of processes and products through the application of modern computational models, algorithms and artificial intelligence.

In addition, the engineer in Intelligent Computing has the knowledge, skills, attitudes and values to propose computing solutions, be a leader and / or join groups of software development, multidisciplinary teams in very diverse as education, research, medical areas, manufacturing, supply chain, public administration, among others.

DURATION:

10 semesters

BASIC SCIENCES

INTELLIGENT COMPUTING ENGINEERING 2017

CURRICULUM

2017 PLAN

CAREER 66

	T	P	C	CENTER	DEPARTMENT
First semester					
Computing languages I	2	3	7	BASIC Sc.	COMPUTER SC.
FUNDAMENTALS OF COMPUTING					
STRUCTURES	2	3	7	BASIC Sc.	COMPUTER SC.
DIFFERENTIAL CALCULUS	3	2	8	BASIC Sc.	MATEM. AND PHYSICS
HIGHER ALGEBRA	2	3	7	BASIC Sc.	MATEM. AND PHYSICS
BASIC ACCOUNTING	2	3	7	E.& A. Sc.	ACCOUNTANCY
Institutional Program of Foreign Language					
Institutional Program of Humanistic Education					
Second semester					
Computing languages II	2	3	7	BASIC Sc.	COMPUTER SC.
COMPUTING STRUCTURES	2	3	7	BASIC Sc.	COMPUTER SC.
DIGITAL LOGIC	2	3	7	BASIC Sc.	ELECTRONIC SYST.
INTEGRAL CALCULUS	3	2	8	BASIC Sc.	MATEM. AND PHYSICS
GENERAL ECONOMY	3	2	8	E.& A. SC.	ECONOMY
Institutional Program of Foreign Languagem					
Institutional Program of Humanistic Education					
Third semester					
Computing languages III	2	3	7	BASIC Sc.	COMPUTER SC.
ADVANCED COMPUTING STRUCTURES	2	3	7	BASIC Sc.	COMPUTER SC.
ARTIFICIAL INTELLIGENCE	2	3	7	BASIC Sc.	COMPUTER SC.
Linear Algebra (AL-A2)	3	2	8	BASIC Sc.	MATEM. AND PHYSICS
Descriptive statistics and probability (EST-C21)					
	3	2	8	BASIC Sc.	STATISTICS
BASIC DRAFTING	2	2	6	Arts & C.	LETTERS
Institutional Program of Foreign Language					
Institutional Program of Humanistic Education					
Fourth semester					
Computing languages IV	2	3	7	BASIC Sc.	COMPUTER SC.
Scientific Programming	2	3	7	BASIC Sc.	COMPUTER SC.
Computer Organization	2	3	7	BASIC Sc.	ELECTRONIC SYST.
ANALYSIS AND DESIGN	2	3	7	BASIC Sc.	INFORMATION SYST.
INTELLIGENT TECHNICS for DEVELOPMENT					
PROCESSES	2	3	7	BASIC Sc.	INFORMATION SYST.
MECHANICS	3	2	8	BASIC Sc.	MATEM. AND PHYSICS
Institutional Program of Foreign Language					
Institutional Program of Humanistic Education					
Fifth semester					
INTELLIGENT OPTIMIZATION	2	3	7	BASIC Sc.	COMPUTER SC.
AUTOMATA I	2	3	7	BASIC Sc.	COMPUTER SC.
INTELLIGENT ARCHITECTURE FOR HYBRID					
DEVELOPMENT	2	3	7	BASIC Sc.	COMPUTER SC.
INTELLIGENT LANGUAGES	2	3	7	BASIC Sc.	COMPUTER SC.
Differential Equations (ED-A3)	2	3	7	BASIC Sc.	MATEM. AND PHYSICS
DATABASE	2	3	7	BASIC Sc.	INFORMATION SYST.
Internship Institutional Program (Induction Course)					
Sixth semester					
COMPUTATIONAL COMPLEXITY					
THEORY	2	3	7	BASIC Sc.	COMPUTER SC.
INTELLIGENT LEARNING	2	3	7	BASIC Sc.	COMPUTER SC.
PROFESSIONAL ETHICS	2	2	6	Social Sc.	PHILOSOPHY
INTRODUCTION TO OPERATIVE					
SYSTEMS	2	3	7	BASIC Sc.	ELECTRONIC SYST.
OPERATIONS RESEARCH (IO-A3)	2	3	7	BASIC Sc.	MATEM. AND PHYSICS

ENTREPRENEURSHIP DEVELOPMENT		2	3	7	BASIC Sc.	
ENTREPRENEURSHIP DEVELOPMENT		2	3	7	E.& A. SC.	ADMINISTRATION
Institutional Program of Social Service (Induction Course)	Internship Institutional Program					

Seventh semester

AUTOMATA II		2	3	7	BASIC Sc.	COMPUTER SC.
DIGITAL MEDIA DEVELOPMENT		2	3	7	BASIC Sc.	COMPUTER SC.
Metaheuristics I		2	3	7	BASIC Sc.	COMPUTER SC.
INTELLIGENT SOFTWARE EVOLUTION		2	3	7	BASIC Sc.	COMPUTER SC.
IMAGE PROCESSING		2	3	7	BASIC Sc.	COMPUTER SC.
ASSEMBLY LANGUAGE		2	2	6	BASIC Sc.	ELECTRONIC SYST.
NETWORKS I		3	2	8	BASIC Sc.	ELECTRONIC SYST.
Institutional Program of Social Service.	Internship Institutional Program					

Eighth semester

DEVELOPMENT METHODOLOGY FOR MOBILE DEVICES		2	3	7	BASIC Sc.	COMPUTER SC.
metaheuristics II		2	3	7	BASIC Sc.	COMPUTER SC.
graphing		2	3	7	BASIC Sc.	COMPUTER SC.
PROBABILISTIC EXPERT SYSTEMS		2	3	7	BASIC Sc.	COMPUTER SC.
NETWORKS II		3	2	8	BASIC Sc.	ELECTRONIC SYST.
SW MANAGEMENT AND PROJECTS		2	3	7	BASIC Sc.	INFORMATION SYST.
Computer Law		3	1	7	SOCIAL Sc.	LAW
Institutional Program of Social Service.	Internship Institutional Program					

Ninth semester

THEORY OF INTERACTIVE SYSTEMS		1	3	5	BASIC Sc.	COMPUTER SC.
RESEARCH SEMINAR I		2	3	7	BASIC Sc.	COMPUTER SC.
WEB SERVICES		2	3	7	BASIC Sc.	COMPUTER SC.
Parallelization of ALGORITHMS		2	3	7	BASIC Sc.	COMPUTER SC.
SECURITY AND INTEGRITY OF SYSTEMS		2	3	7	BASIC Sc.	ELECTRONIC SYST.
DATA MINING		2	3	7	BASIC Sc.	COMPUTER SC.
Institutional Program of Social Service.	Internship Institutional Program					

Tenth semester

RESEARCH SEMINAR II		0	10	10	BASIC Sc.	COMPUTER SC.
Professionalizing Optional Subject I						
Professionalizing Optional Subject II						
Institutional Program of Social Service.	Internship Institutional Program					

professionalizing OPTIONAL SUBJECTS

professionalizing OPTIONAL Subject I & professionalizing OPTIONAL Subject II

QUALIFICATION REQUIREMENTS

Qualification requirements shall be specified based on Article 156 of the General Rules of Teaching at the Autonomous University of Aguascalientes. At this point we should mention the following:

> "Once accredited all subjects and requirements stated in curriculum for technical degree,higher technical degree, and graduate degree, student may request the issuance of his title at the School Control Department, after complying with the following elements :
>
> I. Having met the requirements of Social Service, Humanist Education, Internships and Foreign Languages, as defined in institutional programs;
> II.- Dmonstrate that there is no debt with the Autonomous University of Aguascalientes;

III.- Have paid the amount established in the tax plan to obtain the title and
Iv.- Have taken the exit exam. "