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Universidad del País Vasco
Euskal Herriko Unibertsitatea

VITORIA-GASTEIZKO INGENIARITZA ESKOLA
ESCUELA DE INGENIERÍA DE VITORIA-GASTEIZ

2017
KUDEAKETA AURRERATUARI ZILARREZKO AINTZATESPENA
RECONOCIMIENTO DE PLATA A LA GESTION AVANZADA

Faculty of Engineering Vitoria-Gasteiz

University of the Basque Country (UPV/EHU)

Bachelor´s Degrees:

- **Industrial Electronics and Automation Engineering (ARWU 101-200)**
- **Mechanical Engineering (ARWU 201-300)**
- **Industrial Chemical Engineering (ARWU 51-75)**
- **Computer Engineering in Management and Information Systems (ARWU 301-400)**
- **Automotive Engineering**
- **Double Degree in Computer Engineering and Business Management and Administration**
- **Double Degree in Mechanical Engineering and Business Management and Administration**

Postgraduate Studies:

- **Master´s Degree in Industrial Production and Management Engineering (60 ECTS)**
- **Master´s Degree in Geoinformaties and Geospacial Anaylsis.**

INTRODUCTION TO THE FACULTY

The Faculty of Engineering Vitoria-Gasteiz is located at the Campus of Araba and has trained engineers for the last 60 years. Currently, the Faculty offers a total of five Bachelor´s Degrees, two double Bachelor`s Degrees, two Master´s Degrees and four supplementary courses. We have a team of 110 faculty members, 23 administration and service staff and fully-equipped laboratories. We are a quality Faculty working closely with both students and companies and research institutions the quality of training our students receive and for our research.

Our mission is to train profesional engineeers, people who know how to do their job successfully in the society we live in, where a globalised economy and job market Mobility require profiles capable of developing their job in other countries with different languages and customs.

We also have Exchange agreements with a large number of European and American universities and participate in several international networks.

We are signatories to the Green Pact of the Vitoria-Gasteiz municipality and belong to the European network of Cooperative and Work Integrated Higher Education (CWIHE), DUAL Education.

https://www.ehu.eus/en/web/vitoria-gasteizko-ingeniaritza-eskola/incoming-

INTERNATIONAL MOBILITY

HELP CENTRE

The Help Centre provides students with housing guidance and support. In addition, they give information on the city, the Campus, details on Spanish and Basque courses, student services on campus or any other support they might need while among us (sport facilities, transport).

BUDDY PROGRAMME

In addition to Help Centre, Buddies are local students who volunteer to assist international visitors prior and upon arrival, helping them get oriented in the city, within the campus and the faculty.

ACCOMODATION

It is easy to find accommodation in Vitoria-Gasteiz. A room in a shared flat costs about 250-300 euros a month and a room in a dormitory costs 400 euro and above.

COURSES IN ENGLISH

Students will be able to choose up to 66 ECTS taught in English and 113 ECTS which examinations can be taken in English (English Friendly Courses). Moreover, the Faculty of Arts offers 84 ECTS in History, Culture and Languages.
In addition, the Final Year Project (12 ECTS) can always be performed in English in different areas.
You can find some proposed projects in the Final Year Project in the Web page, click in the Bachelor you are interested to see the proposals. Or you can go to the Research area and see what we are working in order to choose the Final Year Project.

LANGUAGE COURSES

Campus of Araba offers free Spanish and Basque courses for all the incoming students. These courses are offered to all Erasmus students at our Campus. In addition, the students will have the opportunity to attend some language courses in Italian, French or Russian, at the Faculty of arts in our Campus.

STRUCTURE OF THE BACHELOR´S DEGREES

1st YEAR	2nd YEAR	3rd YEAR	4th YEAR
Core Curriculum 60 ECTS	Common Courses for Industrial Branch 60 ECTS	Specific Technology Mechanics 60 ECTS	Common Courses for Industrial Branch 24 ECTS Final Project 12ECTS Elective Internship ERASMUS
		Specific Technology Electronics & Automation 60 ECTS	
		Specific Technology Chemistry 60 ECTS	

MASTER´S DEGREE IN INDUSTRIAL PRODUCTION AND MANAGEMENT ENGINEERING

MANDATORY SUBJECTS	ELECTIVES	MASTER THESIS	TOTAL
30 ECTS	9 ECTS	21 ECTS	60 ECTS (1 ACADEMIC YEAR)

2020-201ACADEMIC CALENDAR

SEMESTER	DATES	EXAMS	EXTRA EXAMS
1st Semester Fall	From September 13 to December 22, 2021	January 7-21,2022	
2nd Semester Spring	From January 24, to May 13 2022	From May 18 to June 3, 2022	From June 13 to July 8, 2022

COURSES IN ENGLISH

FACULTY OF ENGINEERING (VITORIA-GASTEIZ) - Subjects	Semester	Year	ECTS
25977 Fundamentals of Computer Science	1st	1st	6
26002 English for Industrial Engineering	1	4th	6
28120 Social and communication skills and research tools in engineering	1st	1st	6
26047 Mechanical Technology-	1st	3th	6
25977 Fundamentals of Computer Science	1st	1st	6
25978 Thermal Engineering	1st	2nd	6
25988 Environmental Technologies	1st	4th	6
25973 Statistical Methods of Engineering	2nd	1st	6
26048 Industrial Structures and Buildings	2nd	3rd	9
26049 Machine Design - Diseño de Máquinas	2nd	3rd	9
26052 Computer Assisted Structural Analysis	2nd	4th	6
26053 Pneumatic and Hydraulic Systems	2nd	4th	6

FACULTY OF ECONOMICS AND BUSINESS (VITORIA-GASTEIZ)	Semester	Year	ECTS
42 ECTS in Economics and Marketing (see webpage)	1st	2nd	6

FACULTY OF PHARMACY (VITORIA-GASTEIZ)	Semester	Year	ECTS
25260 General & Inorganic Chemistry	1st	1st	9

FACULTY OF ARTS (VITORIA-GASTEIZ) - Subjects	Semester	Year	ECTS
84 ECTS in History, Culture and Languages (see webpage)			

ENGLISH FRIENDLY COURSES
EXAM, OFFICE HOURS (teaching in Spanish)

FACULTY OF ENGINEERING (VITORIA-GASTEIZ)	Semester	Year	ECTS
Common Courses for Industrial Branch			
25974 Physic for Engineering– Fundamentos Físicos de la Ingeniería	Annual	1st	12
25975 Chemistry for Engineering - Fundamentos Químicos de la Ingeniería	Annual	1st	9
25984 Applied Mechanichs-Mecánica Aplicada	Annual	2nd	9
25980 Fundamentals of Electrical Technology -Fundamentos de Tecnología Eléctrica	Annual	2nd	9
25979 Fluid Mechanics– Mecánica de Fluidos	2nd	2nd	6
25985 Production and Manufacturing Systems - Sistemas de Producción y Fabricación	2nd	2nd	6
Bachelor`s Degree in Industrial Electronics and Automation Engineering	1st	2nd	6
25999 Industrial Computer Science – Informática Industrial	1st	3rd	6
28134 Aerodynamics-Aerodinámica	1st	3rd	6
26005 Embedded Systems - Sistemas Empotrados	1st	4th	6
28132 FEM Simulation and Analysis in Automotive-Simulación y Análisis FEM en Automoción	2nd	2nd	6
25996 Digital Electronic Systems - Sistemas Electrónicos Digitales	2nd	3rd	6
26007 Computer Control - Control por Computador	2nd	4th	6
Bachelor´s Degree in Mechanical Engineering			
26045 Elasticity and Strength of Materials - Elasticidad y Resistencia de Materiales	1st	3rd	9
26046 Kinematics and Dynamics of Machines - Cinemática y Dinámica de Máquinas	1st	3rd	9
26050 Thermal Machinery & Facilities - Instalaciones y Máquinas Hidráulicas	2nd	3rd	6
Bachelor´s Degree in Industrial Chemical Engineering			
26091 Industrial Chemistry - Química Industrial	2nd	3rd	6
26095 Industrial Waste Management- Gestión de Residuos Industriales	2nd	4th	6
Bachelor´s Degree in Automotive Engineering			
28138 Manufacturing Processes in Automotive Technology - Procesos de Fabricación en Tecnología Automotriz	1st	3rd	6
28141 Advanced automation in automotive manufacturing - Automatización avanzada en fabricación de automóviles	1st	4th	4,5
28122 Fundamentals of Mechanics – Introducción a la Mecánica	2nd	1st	6
28126 Calculation and Design of structures for automóviles-Cálculo y Diseño Estr. Automovilística	1st	2nd	6
Bachelor´s Degree in Computer Management and Information Systems Engineering			
26031 Basic Programming-Programación Básica	1st	1st	6
26018 Computer Architecture –Arquitectura de Computadores	1st	2nd	6
26021 Languages, Computing & Smart Systems - Lenguajes, Computación y Sist. Inteligentes	1st	2nd	6
26023 Operative Research-Investigación Operativa	1st	2nd	6
26025 Information and Security Management Systems-Sist. Gestión Seguridad e Información	1st	3rd	6
26036 Development of Graphic Systems-Desarrollo de Sistemas Gráficos	1st	4th	6
26013 Methodology of Programming - Metodología de la Programación	2nd	1st	6
26027 Systems for Supporting Decision-making - Sistemas de Apoyo a la Decisión	2nd	3rd	6
26029 Web Systems – Sistemas Web	2nd	3rd	6
26030 Database Administration – Administración de Bases de Datos	2nd	3rd	6
26017 Software Engineering - Ingeniería del Software	2nd	2nd	6
26006 Extended Industrial Information Technology - Ampliación de Informática Industrial	2nd	4th	6

BACHELOR´S DEGREES IN INDUSTRIAL ENGINEERING

FIRST YEAR 60 ECTS (in core subjects)	
Fall Semester	**Spring Semester**
1. Calculus	1. Calculus
2. Graphic Expression	2. Graphic Expression
3. Physical Foundations of Engineering	3. Physical Foundations of Engineering
4. Chemical Foundations of Engineering	4. Chemical Foundations of Engineering
5. Algebra	5. Statistical Methods In Engineering
6. Fundamentals of Computer Science	

SECOND YEAR 60 ECTS (6 in core subjects + 54 in obligatory subjects)	
1.Fundamentals of Electrical Technology	1. Fundamentals of Electrical Technology
2. Applied Mechanics	2. Applied Mechanics
3. Materials Science	3. Automation Systems and Control
4. Industrial Electronics	4. Economy and Business Administration
5. Thermal Engineering	5. Fluid Mechanics
	6. Production and Manufacturing Systems

THIRD YEAR INDUSTRIAL CHEMICAL ENGINEERING 60 ECTS (60 in core subjects)	
1. Unit Operations	1. Unit Operations
2. Chemical Engineering Experimentation I	2. Chemical Process Control
3. Physical Chemistry	3. Chemical Engineering Experimentation II
4. Chemical Reaction Engineering	4. Industrial Chemistry
5. Analytical Chemistry	5. Simulation and Optimization of Chemical Processes

THIRD YEAR MECHANICAL ENGINEERING 60 ECTS (60 in core subjects)	
1. Graphic Expression Extension	1. Machine Design
2. Kinematics and Dynamics of Machines	2. Industrial Structures and Buildings
3. Elasticity and Resistance of Materials	3. Hydraulic Facilities and Machines
4. Mechanical Technology	4. Thermal Systems and Machines

THIRD YEAR INDUSTRIAL ELECTRONICS AND AUTOMATION ENGINEERING 60 ECTS (60 in core subjects)	
1. Analogue Electronics	1. Industrial Automation
2. Digital Electronics	2. Power Electronics
3. Industrial Informatics	3. Electronic Instrumentation
4. Automatic Regulation	4. Robotics
5. Electronic Technology	5. Digital Electronics Systems

FOURTH YEAR 60 ECTS (24 in obligatory subjects + 24 in electives +12 in Final Year Project)	
1. Project Management	FINAL YEAR PROJECT
2. Production Management	ELECTIVES
3. Integrated Management Systems	1. Communication in Basque. Technical areas
4. Environmental Technologies	2. Industrial Waste Management (Chemistry)
ELECTIVES	3. Biological Treatment of Effluents (Chemistry)
1. English for Industrial Engineering	4. Industrial Biotechnology (Chemistry)
2. Norm and usage of the Basque language	5. Treatment of Air Pollution (Chemistry)
3. Characterisation of Pollutants (Chemistry)	6. Computer Aided Structural Analysis (Mechanics)
4. Advanced Product Engineering Design and Graphical Representation of Industrial Buildings (Mechanics)	7. Control and Inspection of Materials (Mechanics)
5. English for Industrial Engineering (Mechanics)	8. Heat Engines (Mechanics)
6. Embedded Systems (Electronics)	9. Pneumatic and Oil Hydraulic Systems (Mechanics)
	10. Industrial Informatics Extension (Electronics)
	11. Control by Computer (Electronics)
	12. Electronic Design and Simulation (Electronics)
	13. Microelectronics (Electronics)

BACHELOR´S DEGREE IN COMPUTER ENGINEERING IN MANAGEMENT AND INFORMATION SYSTEMS

FIRST YEAR 60 ECTS (42 ECTS in core subjects + 18 ECTS in obligatory subjects)	
Fall Semester	Spring Semester
1. Algebra	1. Calculus
2. Mathematical Analysis	2. Computer Structure
3. Fundamentals of Computer Science	3. Discrete Mathematics
4. Principles of Digital Systems Design	4. Programming Methodology
5. Basic Programming	5.Modular Programming and Object Orientation
SECOND YEAR 60 ECTS (18 ECTS in core subjects + 42 ECTS in obligatory subjects)	
1. Computer Architecture	1. Databases
2.Data and Algorithm Structure	2. Economy and Business Administration
3. Introduction to Computer Network	3. Software Engineering
4. Operation Research	4. Introduction to Operating Systems
5. Languages, Computation and Intelligent Systems	5. Statistical Methods in Engineering
THIRD YEAR 60 ECTS (60 ECTS in obligatory subjects)	
1. Information Systems Analysis and Design	1. Database Administration
2. Database Design	2. Project Management
3. Production Management	3. Decision Support Systems
4. Information Systems Security Management Systems	4. Web Systems
5. Integrated Management Systems	5. Business Management Software
FOURTH YEAR 60 ECTS (48 ECTS in electives + 12 ECTS Final Year Project)	
1. Systems Administration	1. Industrial Informatics Extension
2. Software Quality Control and Assurance	2. Communication in Basque. Technical areas
3.Graphic Systems Development	3. Control by Computer
4. Electric Systems Design	4. Web Information Systems Development
5. English for Industrial Engineering	5. Advanced Project Management
6. Fundamentals of Environmental Technology and Management	
7. Materials for Microelectronic Industry	
8. Norm and usage of the Basque language	
9. Automation Programming	

BACHELOR´S DEGREE IN AUTOMOTIVE ENGINEERING

FIRST YEAR 60 ECTS (54 ECTS in core subjects + 6 ECTS in obligatory subjects)	
Fall Semester	Spring Semester
1. Algebra	1. Calculus
2. Calculus	2. Calculus and Numerical Analysis Extension
3. Fundamentals of Computer Science	3. Fluid Mechanics
4. Social and Communication skills and Engineering Research Tools	4.Statistical Methods in Automotive Industry
5. Automotive Graphic Engineering	5. Automotive Materials
SECOND YEAR 60 ECTS (6 ECTS in core subjects + 54 ECTS in obligatory subjects)	
1. Electrical Circuits Analysis	1. Machines and Electrical Traction
2. Automotive Electronics	2. Economy and Business Administration
3. Vehicles Engineering	3. Automotive FEM Simulation and Analysis
4. Automotive Structures Calculus and Design	4. Vehicle Control Systems and Driving Aid Systems
5. Thermodynamics and Thermotechnology	5. Internal Combustion Engines
THIRD YEAR 60 ECTS (42 ECTS in obligatory subjects + 18 ECTS in Internship)	
1. Aerodynamics	1. Industrial Automation and Robotics
2. Electrical Energy Integration and Storage in Automotive Systems	2. Automotive Manufacturing
3. Hybrid and Electric Vehicles	3. Automotive Instrumentation
4. Automotive Technology Manufacturing Processes	4. Internship 2
5. Internship 1	
FOURTH YEAR 60 ECTS (6 ECTS in obligatory subjects, 18 ECTS in Electives, 24 in Internship, 12 ECTS In Final Year Project)	
ELECTIVES	ELECTIVES
1. Vehicles Manufacturing Advanced Automation	1. Automotive Industrial Quality and Logistics
2. English for Industrial Engineering	2. Internship 4
3. Technical Basque	FINAL YEAR PROJECT
4. Design Tools	
5. Research Technologies in Automotive Engineering	
6. Norm and usage of the Basque language	
7. Traffic Accidents Expertise	
8. Advanced Robotics	
9. Industry Security	
10. Navigation Systems	
11. Internship 3	

DOUBLE DEGREEE IN COMPUTER ENGINEERING AND BUSINESS MANAGEMENT AND ADMINISTRATION

Fall Semester	Spring Semester
FIRST YEAR 72 ECTS	
1. Corporate Business Economics: Introduction	1. Financial Accounting
2. Accounting Introduction	2. Corporate Business: Organization and Direction
3. Introduction to Economics: Macroeconomics	3. Introduction to Economics: Microeconomics
4. Mathematical Analysis	4. Calculus
5. Fundamentals of Computer Science	5. Introduction to Operating Systems
6. Basic Programming	6.Programming Methodology
SECOND YEAR 72 ECTS	
1. Introduction to Law	1. Economic History
2. Statistics and Data Analysis	2. Business Statistics
3. Cost Accounting	3. Superior Financial Accounting
4. Principles of Digital Systems Design	4. Computer Structure
5. Algebra	5. Discrete Mathematics
6. Operation Research	6. Modular Programming and Object Orientation
THIRD YEAR 72 ECTS	
1. Financial Mathematics	1. Commercial Direction: Politics
2. Microeconomics	2. Financial Direction: Financing
3. Commercial Direction: Introduction	3. Economic Structure
4. Computer Architecture	4. Databases
5. Languages, Computation and Intelligent Systems	5. Software Engineering
6. Data and Algorithm Structure	6. Business Management Software
FOURTH YEAR 72 ECTS	
1. Accounting Analysis	1. Consolidation of Financial Statements
2. Strategic Direction: Company´s Policy	2. Strategic Direction: Business Development
3. Macroeconomics	3. Database Administration
4. Econometrics	4. Web Systems
5. Introduction to Computer Network	5. Project Management
6. Database Design	6. Decision Support Systems
FIFTH YEAR 66 ECTS	
1. Business Law	1. Final Year Project in Business Management and Administration
2. Taxation of the Company	2. Final Year Project in Computer Engineering in Management and Information Systems
3. Financial Direction: Investments	
4. Analysis and Information Systems Design	
5. Production Management	
6. Integrated Management Systems	
7. Information Systems Security Management Systems	

INTERNSHIP IN COMPANIES

One of the objectives of the faculty is that all students have the opportunity to do Internship in High Tech Companies in our region.
The main purpose is that students achieve comprehensive training through a voluntary Internship programme which is expected to be followed by most of the students.
This Internship makes the incorporation into the labour market easier and provides professional experience in addition to knowledge and practical skills.

DOUBLE DEGREEE IN MECHANICAL ENGINEERING AND BUSINESS MANAGEMENT AND ADMINISTRATION

FIRST YEAR (75 ECTS)	
Fall Semester	**Spring Semester**
1. Corporate Business Economics: Introduction	1. Financial Accounting
2. Accounting Introduction	2. Corporate Business: Organization and Direction
3. Introduction to Economics: Macroeconomics	3. Introduction to Economics: Microeconomics
4. Fundamentals of Computer Science	6.Programming Methodology
5. Calculus	5. Calculus
6. Physical Foundations of Engineering	6. Physical Foundations of Engineering
7. Chemical Foundations in Engineering	7. Chemical Foundations in Engineering
SECOND YEAR (75 ECTS)	
1. Introduction to Law	1. Economic History
2. Statistics and Data Analysis	2. Business Statistics
3. Cost Accounting	3. Superior Financial Accounting
4. Algebra	4. Fluid Mechanics
5. Graphic Expression	5. Graphic Expression
6. Applied Mechanics	6. Applied Mechanics
7.Fundamentals of electrical Technology	7. Fundamentals of electrical Technology
THIRD YEAR (75 ECTS)	
1. Financial Mathematics	1. Commercial Direction: Politics
2. Microeconomics	2. Financial Direction: Financing
3. Commercial Direction: Introduction	3. Economic Structure
4. Materials Science	4. Automation Systems and Control
5. Industrial Electronics	5. Production and Manufacturing Systems
6. Thermal Engineering	6. Production and Manufacturing Systems
7. Kinematics and Dynamics of Machines	
FOURTH YEAR (75 ECTS)	
1. Accounting Analysis	1. Consolidation of Financial Statements
2. Strategic Direction: Company´s Policy	2. Strategic Direction: Business Development
3. Macroeconomics	3. Machine Design
4. Econometrics	4. Industrial Structures and Buildings
5. Elasticity and Resistance of Materials	
6. Graphic Expressions Extension	
7. Mechanical Technology	
FIFTH YEAR (72 ECTS)	
1. Business Law	1. Thermal Systems and Machines
2. Taxation of the Company	2. Hydraulic Facilities and Machines
3. Financial Direction: Investments	3. Final Year Project in Mechanical Engineering
4. Project Management	4. Final Year Project in Business Management and Administration
5. Production Management	
6. Environmental Technologies	

MASTER´S DEGREE IN INDUSTRIAL PRODUCTION AND MANAGEMENT ENGINEERING (60 ECTS)

Fall Semester	Spring Semester
Compulsory subjects	Internship
1. Company Financial Economic Analysis	
2. Quality applied to business management	
3. Strategic Direction	
4. Management in teams	
5. Introduction to the innovation, technology and knowledge	
6. Business and industrial marketing	
7. Advanced engineering organization statics methods	
8. New problems and approaches in organization of production and logistics	
9. Technical and engineering management models	
Electives	
1. Learning in automatic production systems	
2. Entrepreneurship/ Business plan	
3. Business Innovation	
4. Integration of management systems	
5. Business intelligence	
6. Enterprise Information system	

Basque yourself

Ranked among the top 400 World Universities, the University of the Basque Country is a multilingual institution where Spanish, Basque and English are equally spoken. After exhaustive assessment of our activity, we were accredited Campus of International Excellence by the Spanish Ministry of Education. Boosted by this recognition, we aspire to even higher goals: becoming one of Europe´s best.

If you are interested in acquiring the best academic and professional qualifications, the University of the Basque Country can offer you a positive learning environment, optimal technical and human resources and, above all, the prestige of a university with excellence and innovation in teaching.

Our University is the Basque Country´s largest higher education institution. Structured in three campus, covering the three Basque territories, our community of students, lecturers and researchers aggregates 60,000 fellows.

Come and basque yourself!

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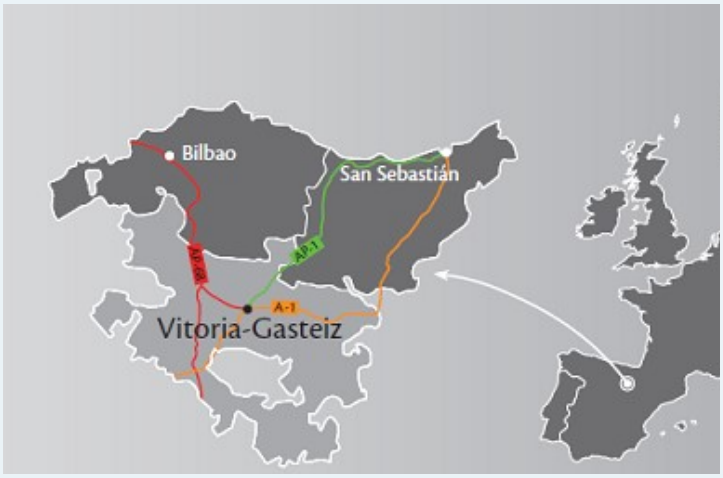

The Faculty of Engineering Vitoria-Gasteiz, brings you the opportunity to discover another way to live the University and discover the incredible history of this country