

## URV Engineering School (ETSE) – Course 2023-24 –

### Subjects taught in English (Bachelor Degrees)

General information for incoming mobility students is available [here](#).

The tables in this document show, from left to right, the name of the course, the semester in which it is taught (*Fall*- September to January, *Spring*-February to June), the number of ECTS and the code of the course. Each study has a link to a web page with extensive information about it, including the Program of Studies and the Teaching Guide, which contains detailed information about each course.

#### Mathematical and Physics Engineering – GEMiF

COMBINATORICS AND PROBABILITY	Fall	6	17274102
CLASSICAL MECHANICS	Fall	6	17274106
THERMODYNAMICS	Spring	6	17274112
QUANTUM PHYSICS	Spring	6	17274108
NUMERICAL METHODS	Spring	6	17274109
STATISTICAL MECHANICS	Fall	6	17274116
BIOPHYSICS	Fall	6	17274113
PHYSICAL ELECTRONICS	Spring	6	17274117
ALGEBRAIC STRUCTURES	Spring	6	17274118

#### Electronic and Automation Engineering-GEEliA

TECHNICAL ENGLISH	Spring	6	17204102
EMBEDDED SYSTEMS	Fall	3	17204206

#### Electrical Engineering-GEE

TECHNICAL ENGLISH	Spring	6	17214102
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#### Computer Engineering – GEI

TECHNICAL ENGLISH	Spring	6	17234102
MOBILE AND EMBEDDED APPLICATIONS	Fall	6	17234125

#### Techniques for Developing Web and Mobile Applications – GTDAWIM

No courses taught in English.

**Biomedical Engineering-GEB**

OMICS TECHNOLOGY AND DATA HANDLING	Fall	4.5	17254112
BIOMEDICAL IMAGE PROCESSING	Spring	4.5	17254119
COMPUTATIONAL BIOLOGY AND ANALYSIS OF BIOMEDICAL DATA	Spring	4.5	17254115
BIOMATERIALS ENGINEERING AND TISSUE REGENERATION I	Spring	3	17254116
BIOMECHANICS II	Fall	4.5	17254123
MANAGEMENT OF HEALTH INFRASTRUCTURES	Fall	6	17254124
INNOVATION AND ENTREPRENEURSHIP	Spring	4.5	17254128
COMPUTATIONAL AND EXPERIMENTAL BIOMECHANICS	Spring	3	17254220
NANOTECHNOLOGIES APPLIED TO BIOMEDICINE	Spring	3	17254208

**Telecommunication Systems and Services Engineering-GESST**

TECHNICAL ENGLISH	Spring	6	17244102
INNOVATION AND ENTREPRENEURSHIP	Spring	6	17244131
EMBEDDED SYSTEMS	Spring	3	17244212

**Courses common to all bachelor degrees**

BACHELOR'S THESIS (12 ECTS)

## URV Engineering School (ETSE) – Course 2023-24

**Subjects taught in Catalan/Spanish in which the lecturers provide personalized tutoring services in English (course material, personalized learning support, exercises, exams, etc.)**

Note: ERASMUS students are advised to check the availability of the English tutoring service in the subjects in which they are interested before starting the mobility process, by sending a message to the [mobility coordinator](#) of the degree.

### **Mathematical and Physics Engineering-GEMiF**

<b>LINEAR ALGEBRA</b>	<b>Fall</b>	<b>7.5</b>	<b>17274001</b>
<b>MATHEMATICAL ANALYSIS I</b>	<b>Fall</b>	<b>7.5</b>	<b>17274002</b>
<b>PHYSICS I</b>	<b>Fall</b>	<b>9</b>	<b>17274003</b>
<b>SCIENTIFIC PROGRAMMING</b>	<b>Fall</b>	<b>6</b>	<b>17274004</b>
<b>MATHEMATICAL ANALYSIS II</b>	<b>Spring</b>	<b>7.5</b>	<b>17274005</b>
<b>DIFFERENTIAL EQUATIONS I</b>	<b>Spring</b>	<b>6</b>	<b>17274006</b>
<b>PHYSICS II</b>	<b>Spring</b>	<b>9</b>	<b>17274007</b>
<b>GEOMETRY</b>	<b>Spring</b>	<b>7.5</b>	<b>17274008</b>
<b>ELECTROMAGNETISM</b>	<b>Fall</b>	<b>6</b>	<b>17274104</b>
<b>ALGEBRAIC COMPUTATION</b>	<b>Fall</b>	<b>6</b>	<b>17274103</b>
<b>DIFFERENTIAL EQUATIONS II</b>	<b>Spring</b>	<b>6</b>	<b>17274105</b>
<b>STATISTICS</b>	<b>Spring</b>	<b>6</b>	<b>17274107</b>
<b>GRAPH THEORY</b>	<b>Spring</b>	<b>6</b>	<b>17274111</b>
<b>COMPLEX ANALYSIS</b>	<b>Fall</b>	<b>6</b>	<b>17274101</b>
<b>PHYSICS OF FLUIDS</b>	<b>Fall</b>	<b>6</b>	<b>17274114</b>
<b>PHYSICS OF THE SOLID STATE AND SURFACES</b>	<b>Fall</b>	<b>6</b>	<b>17274115</b>
<b>DYNAMICAL SYSTEMS</b>	<b>Spring</b>	<b>6</b>	<b>17274110</b>
<b>DIFFERENTIAL GEOMETRY AND APPLICATIONS</b>	<b>Spring</b>	<b>6</b>	<b>17274119</b>

GEMiF also includes, as optional courses, some subjects from other studies such as GEI or GEEIIA. Please check with the GEMIF mobility coordinator the availability of these optional courses.

**Electronic and Automation Engineering-GEEIIA**

CHEMICAL FUNDAMENTALS OF ENGINEERING	Fall	6	17204010
CIRCUIT THEORY I / CIRCUIT THEORY II	Fall / Spring	6 / 5	17204105 / 17204106
STATISTICS AND TRANSFORMED METHODS	Fall	6	17204009
THERMODYNAMICS AND HYDRAULICS	Fall	6	17204117
FUNDAMENTALS OF ELECTRICAL INSTALLATIONS	Spring	5	17204116
FUNDAMENTALS OF ELECTRICAL MACHINES	Spring	5	17204115
FUNDAMENTALS OF ELECTRONICS	Spring	5	17204107
MACHINES AND MECHANISMS	Spring	5	17204121
SCIENCE AND RESISTANCE OF MATERIALS	Spring	5	17204122
ANALOGUE ELECTRONICS	Fall	6	17204109
DIGITAL ELECTRONICS	Fall	6	17204108
INDUSTRIAL COMPUTER SCIENCE I /INDUSTRIAL COMPUTER SCIENCE II	Fall / Fall	6 / 6	17204119 / 17204120
POWER ELECTRONICS	Fall	6	17204110
AUTOMATIC CONTROL	Spring	6	17204123
ELECTRONIC EQUIPMENT	Spring	6	17204112
INSTRUMENTATION	Spring	6	17204113
MICROCONTROLLERS	Spring	6	17204111
AUTOMATION	Fall	6	17204103
ELECTRONIC POWER SYSTEMS	Fall	6	17204114
SYSTEMS MODELLING AND PROCESS CONTROL	Fall	6	17204124
FINAL PROJECT	Spring	3	17204126
INDUSTRIAL ORGANISATION	Spring	6	17204118
ROBOTIZED SYSTEMS	Spring	6	17204104
AUDITING OCCUPATIONAL RISK PREVENTION	Fall	3	17204214
CONTROL OF ELECTRICAL MACHINES	Fall	6	17204231
OPTOELECTRONIC MECHANISMS AND SYSTEMS	Fall	3	17204258
AUTOMATION PERIPHERALS	Spring	3	17204260
INTRODUCTION TO MOBILE ROBOTS	Spring	3	17204210
MANAGING THE POWER OF ELECTRIC VEHICLES	Spring	3	17204208
PROJECT MANAGEMENT	Spring	3	17204212
RENEWABLE ENERGIES	Spring	6	17204223

**Electrical Engineering-GEE**

CHEMICAL FUNDAMENTALS OF ENGINEERING	Fall	6	17214010
CIRCUIT THEORY I / CIRCUIT THEORY II	Fall / Spring	6 / 5	17214105 / 17214106
STATISTICS AND TRANSFORMED METHODS	Fall	6	17214009
THERMODYNAMICS AND HYDRAULICS	Fall	6	17214117
FUNDAMENTALS OF ELECTRICAL MACHINES	Spring	5	17214115
FUNDAMENTALS OF ELECTRONICS	Spring	5	17214107
SCIENCE AND RESISTANCE OF MATERIALS	Spring	5	17214122
ELECTRICAL MACHINES	Fall	6	17214120
POWER ELECTRONICS	Fall	6	17214110
DESIGN OF ELECTRICAL MACHINES	Spring	6	17214123
FUNDAMENTALS OF AUTOMATIC CONTROL	Spring	6	17214104
RENEWABLE ENERGIES	Spring	6	17214109
AUTOMATION	Fall	6	17214103
CONTROL OF ELECTRICAL MACHINES	Fall	6	17214124
LIGHTING ENGINEERING	Fall	3	17214113
ENVIRONMENTAL TECHNOLOGIES	Spring	3	17214112
INDUSTRIAL ORGANISATION	Spring	6	17214118
POWER STATIONS	Fall	6	17214108

**Computer Engineering – GEI**

PROGRAMMING	Fall	6	17234114
DISCRETE MATHEMATICS II	Spring	6	17234010
COMPUTER STRUCTURE	Spring	6	17234108
ANALYSIS AND DESIGN OF APPLICATIONS	Spring	6	17234105
COMPUTER ARCHITECTURE	Fall	6	17234109
FORMAL LANGUAGES	Spring	6	17234110
ARTIFICIAL INTELLIGENCE	Fall	6	17234128
COMPILERS	Fall	6	17234127
REAL-TIME SYSTEMS	Fall	6	17234124
COMPUTERIZED VISION	Spring	6	17234130
ELECTRONIC COMMERCE SYSTEMS	Spring	6	17234121
INFORMATION SYSTEMS IN ORGANIZATIONS	Spring	6	17234122
NETWORK SECURITY	Spring	6	17234120
DATA NETWORKS	Fall	6	17234118
STATISTICS	Fall	6	17234011
DISTRIBUTED SYSTEMS	Spring	6	17234106
ADVANCED PROGRAMMING TECHNIQUES	Fall	6	17234117
MOBILE APPLICATIONS AND SERVICES	Spring	6	17234267
ADVANCED PROGRAMMING OF MOBILE DEVICES	Fall	6	17234268

**Techniques for Developing Web and Mobile Applications – GTDAWIM**

ADVANCED PROGRAMMING TECHNIQUES	Fall	6	17264117
ADVANCED PROGRAMMING OF MOBILE DEVICES	Fall	6	17264138
ADVANCED DEVELOPMENT OF WEB APPLICATIONS	Fall	6	17264121

**Biomedical Engineering-GEB**

<b>PROGRAMMING</b>	<b>Fall</b>	<b>6</b>	<b>17254013</b>
<b>FUNDAMENTALS OF COMMUNICATION I / FUNDAMENTALS OF COMMUNICATION II</b>	<b>Fall / Spring</b>	<b>6 / 6</b>	<b>17254015 / 17254106</b>
<b>ANALYSIS OF LINEAR CIRCUITS AND SYSTEMS</b>	<b>Fall</b>	<b>6</b>	<b>17254014</b>
<b>DATA ANALYSIS AND BIOSTATISTICS</b>	<b>Fall</b>	<b>6</b>	<b>17254105</b>
<b>BIOFLUID MECHANICS</b>	<b>Fall</b>	<b>6</b>	<b>17254010</b>
<b>PHYSIOLOGY</b>	<b>Spring</b>	<b>7.5</b>	<b>17254107</b>
<b>ANALOGUE ELECTRONICS</b>	<b>Spring</b>	<b>4.5</b>	<b>17254109</b>
<b>BIOCHEMISTRY</b>	<b>Spring</b>	<b>6</b>	<b>17254011</b>
<b>BIOPHYSICS</b>	<b>Spring</b>	<b>6</b>	<b>17254012</b>
<b>DIGITAL ELECTRONICS</b>	<b>Fall</b>	<b>6</b>	<b>17254108</b>
<b>DIGITAL TREATMENT OF BIOSIGNALS</b>	<b>Fall</b>	<b>6</b>	<b>17254113</b>
<b>DATA NETWORKS AND INTERNET</b>	<b>Fall</b>	<b>6</b>	<b>17254114</b>
<b>PHYSIOPATHOLOGY</b>	<b>Fall</b>	<b>4.5</b>	<b>17254111</b>
<b>ADVANCED MEDICAL PHYSICS</b>	<b>Fall</b>	<b>3</b>	<b>17254110</b>
<b>SENSORS AND INSTRUMENTS FOR BIOMEDICINE</b>	<b>Spring</b>	<b>4.5</b>	<b>17254120</b>
<b>BIOMECHANICS I</b>	<b>Spring</b>	<b>3</b>	<b>17254117</b>
<b>TECHNOLOGIES FOR SENSOR NETWORKS, THE IOT AND SMART CITIES</b>	<b>Spring</b>	<b>4.5</b>	<b>17254121</b>
<b>BIG DATA INFRASTRUCTURES</b>	<b>Spring</b>	<b>6</b>	<b>17254118</b>
<b>BIOMATERIALS ENGINEERING AND TISSUE REGENERATION II</b>	<b>Fall</b>	<b>3</b>	<b>17254122</b>
<b>SENSORS AND MOBILE TECHNOLOGIES LABORATORY FOR BIOENGINEERING</b>	<b>Fall</b>	<b>3</b>	<b>17254125</b>
<b>MEDICAL ROBOTICS</b>	<b>Fall</b>	<b>4.5</b>	<b>17254126</b>
<b>TELEMEDICINE</b>	<b>Spring</b>	<b>4.5</b>	<b>17254129</b>
<b>EQUIPMENT FOR MONITORING, DIAGNOSIS AND THERAPY</b>	<b>Spring</b>	<b>3</b>	<b>17254127</b>
<b>SMART HEALTH</b>	<b>Spring</b>	<b>3</b>	<b>17254209</b>



## Telecommunication Systems and Services Engineering-GESST

PROGRAMMING	Fall	6	17244010
ANALYSIS OF CIRCUITS AND LINEAR SYSTEMS	Fall	6	17244009
FUNDAMENTALS OF COMMUNICATION I / FUNDAMENTALS OF COMMUNICATION II	Fall / Spring	6 / 6	17244103 / 17244108
DIGITAL ELECTRONICS	Fall	6	17244105
DATA NETWORKS AND THE INTERNET	Fall	6	17244104
INFRASTRUCTURES FOR BIG DATA	Spring	6	17244106
ANALOGUE ELECTRONICS	Spring	5	17244107
WAVE TRANSMISSION AND PROPAGATION	Spring	5	17244110
RADIO-FREQUENCY ENGINEERING	Spring	5	17244111
TELECOMMUNICATIONS LABORATORY	Spring	3	17244109
DIGITAL SIGNAL PROCESSING	Fall	6	17244113
DIGITAL COMMUNICATIONS	Fall	6	17244112
EMITTERS AND RECEIVERS	Fall	6	17244116
ANTENNAS AND RADIOPROPAGATION	Fall	6	17244119
MICROCONTROLLERS AND EMBEDDED SYSTEMS	Fall	6	17244117
TECHNOLOGIES FOR SENSOR NETWORKS, THE INTERNET OF THINGS AND SMART CITIES	Spring	4.5	17244121
TELEPHONY AND MOBILE COMMUNICATIONS	Spring	6	17244120
SENSORS AND INSTRUMENTATION	Spring	4.5	17244118
TELECOMMUNICATION PROJECTS	Fall	6	17244128
BROADBAND AND OPTICAL COMMUNICATIONS	Fall	6	17244134
MOBILE SENSORS AND TECHNOLOGIES LABORATORY	Fall	3	17244132
INDUSTRIAL TELECOMMUNICATIONS AND ELECTROMAGNETIC COMPATIBILITY	Spring	3	17244135
TELEMEDICINE	Spring	3	17244219
NETWORK MANAGEMENT	Spring	6	17244136
MOBILE APPLICATIONS AND SERVICES LABORATORY	Fall	3	17244228
ADVANCED PROGRAMMING OF MOBILE DEVICES	Fall	6	17244138
ENERGY MANAGEMENT IN TELECOMMUNICATION SYSTEMS	Fall	3	17244129
NETWORK DESIGN / NETWORK SECURITY	Fall / Spring	6 / 6	17244130 / 17244123
DISTRIBUTED TELEMATIC SYSTEMS	Spring	6	17244223
NETWORK APPLICATION ARCHITECTURES	Fall	6	17244213
NETWORK MODELLING	Fall	6	17244124
WEBSITE ENGINEERING	Fall	6	17244125
MOBILE APPLICATIONS AND SERVICES	Spring	6	17244115
MULTIMEDIA SERVICES	Spring	6	17244114