

# University of Pavia

**Study Course: COMPUTER ENGINEERING - 06415**

**Classe LM-32 Ingegneria informatica**

**Regulations 2012/2013 - Course Regulations a.y. 2023/2024**

**Study Plan academic year 2023/2024**

STUDENT NUMBER N. .... SURNAME- NAME .....

## TRACK 02 - COMPUTER SCIENCE AND MULTIMEDIA

### 1° Year - academic year 2023/2024

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
507320 - DIGITAL CONTENT RETRIEVAL	12	1		X			All Year
Teaching Unit of DIGITAL CONTENT RETRIEVAL							
510792 - DIGITAL CONTENT RETRIEVAL - MOD. A	6				ING-INF/05	Distinctive	First Semester
510793 - DIGITAL CONTENT RETRIEVAL - MOD. B	6				ING-INF/05	Distinctive	Second Semester
504710 - NUMERICAL METHODS IN ENGINEERING SCIENCES	6	2		X	MAT/08	Related/Supplementary	First Semester
504712 - ADVANCED COMPUTER ARCHITECTURE	6	3		X	ING-INF/05	Distinctive	First Semester
504703 - COMPUTER VISION	6	4		X	ING-INF/05	Distinctive	First Semester
509072 - WEB AND MULTIMEDIA TECHNOLOGIES	6	5		X	ING-INF/05	Distinctive	First Semester
505000 - RADAR REMOTE SENSING	6	6*			ING-INF/03	Related/Supplementary	Second Semester
504464 - ORGANIZATION THEORY AND DESIGN	6	6*			SECS-P/06	Related/Supplementary	Second Semester
504713 - ENTERPRISE DIGITAL INFRASTRUCTURE	12	7		X	ING-INF/05	Distinctive	Second Semester
504709 - HUMAN COMPUTER INTERACTION	6	8		X	ING-INF/05	Distinctive	Second Semester
<b>TOT. 60 CFU</b>							

\*Choose 6 CFU for choice n°6

### 2° Year - academic year 2024/2025

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
504707 - ARTIFICIAL INTELLIGENCE	6	9		X	ING-INF/05	Related/Supplementary	First Semester
504718 - INFORMATION SECURITY	6	10		X	ING-INF/05	Distinctive	First Semester

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509584 - CLOUD COMPUTING	6	11*			ING-INF/05	Distinctive	First Semester
510799 - ALGORITHMS AND SYSTEMS FOR ROBOTICS	6	11*			ING-INF/05	Distinctive	First Semester
FREE CHOICE FROM THE UNIVERSITY COURSE OFFER	12	12*-13*				Optional	
507288 - INTERNET AND MULTIMEDIA	6	12*-13*			ING-INF/03	Optional	First Semester
504462 - PROCESS CONTROL	6	12*-13*			ING-INF/04	Optional	First Semester
509380 - PARALLEL PROGRAMMING	6	12*-13*			ING-INF/05	Optional	Second Semester
510799 - ALGORITHMS AND SYSTEMS FOR ROBOTICS	6	12*-13*			ING-INF/05	Optional	First Semester
509584 - CLOUD COMPUTING	6	12*-13*			ING-INF/05	Optional	First Semester
505018 - SATELLITE DATA ANALYSIS	6	12*-13*			ING-INF/03	Optional	First Semester
509073 - DEEP LEARNING	6	12-13*			ING-INF/05	Optional	Second semester
504464 - ORGANIZATION THEORY AND DESIGN	6	12*-13*			SECS-P/06	Optional	Second Semester
509536 - ITALIAN LANGUAGE FOR FOREIGN STUDENTS	3	14*			NN	Other	First Semester
501246 - ETICA AMBIENTALE	3	14*			SECS-P/13	Other	Second Semester
507220 - PLANNING, MANAGEMENT AND SUPPLY OF GOODS AND SERVICES	3	14*			ING-IND/35	Other	Second Semester
504860 - REGULATORY AFFAIRS NELLA PROGETTAZIONE, SVILUPPO E CERTIFICAZIONE DI DISPOSITIVI MEDICI	3	14*			ING-INF/06	Other	Second Semester
510172 - ETICA PER LA PROGETTAZIONE SOSTENIBILE	6	14*			SECS-P/13	Other	Second Semester
504722 - PROJECT WORK IN COMPUTER ENGINEERING	6	14*			NN	Other	
503327 - MASTER THESIS	24			X	PROFIN_S	Final Exam	
<b>TOT. 60 CFU</b>							

\*Choose 6 CFU for choice n°9; choose 6 CFU for choice n° 11; choose 12 CFU for choices n°12-13; choose 6 CFU for choice n°14

**TRACK 08 - DATA SCIENCE**

**1° Year - academic year 2023/2024**

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
507320 - DIGITAL CONTENT RETRIEVAL	12	1		X			All Year
Teaching Unit of DIGITAL CONTENT RETRIEVAL							
510792 - DIGITAL CONTENT RETRIEVAL - MOD. A	6				ING-INF/05	Distinctive	First Semester
510793 - DIGITAL CONTENT RETRIEVAL - MOD. B	6				ING-INF/05	Distinctive	Second Semester
504710 - NUMERICAL METHODS IN ENGINEERING SCIENCES	6	2		X	MAT/08	Related/Supplementary	First Semester

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504712 - ADVANCED COMPUTER ARCHITECTURE	6	3		X	ING-INF/05	Distinctive	First Semester
504707 - ARTIFICIAL INTELLIGENCE	6	4		X	ING-INF/05	Distinctive	First Semester
509070 - STATISTICAL LEARNING THEORY	6	5		X	ING-INF/04	Distinctive	First Semester
509074 - DATA SCIENCE AND BIG DATA ANALYTICS	6	6		X	ING-INF/05	Distinctive	Second Semester
504713 - ENTERPRISE DIGITAL INFRASTRUCTURE	12	7		X	ING-INF/05	Distinctive	Second Semester
509071 - MACHINE LEARNING	6	8		X	ING-INF/05	Distinctive	Second Semester
<b>TOT. 60 CFU</b>							

**2° Year - academic year 2024/2025**

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
505018 - SATELLITE DATA ANALYSIS	6	9		X	ING-INF/03	Related/Supplementary	First Semester
504718 - INFORMATION SECURITY	6	10		X	ING-INF/05	Distinctive	First Semester
509076 - FINANCIAL DATA SCIENCE	6	11		X	SECS-P/01	Related/Supplementary	First Semester
FREE CHOICE FROM THE UNIVERSITY COURSE OFFER	12					Optional	
509584 - CLOUD COMPUTING	6	12-13*			ING-INF/05	Optional	First Semester
509380 - PARALLEL PROGRAMMING	6	12*-13*			ING-INF/05	Optional	Second Semester
509073 - DEEP LEARNING	6	12-13*			ING-INF/05	Optional	Second semester
508734 - ADVANCED BIOMEDICAL MACHINE LEARNING	6	12-13*			ING-INF/06	Optional	Second semester
509005 - OPTIMIZATION MODELS AND ALGORITHMS FOR DATA SCIENCE	6	12-13*			MAT/09	Optional	Second Semester
509536 - ITALIAN LANGUAGE FOR FOREIGN STUDENTS	3	14*			NN	Other	First Semester
501246 - ETICA AMBIENTALE	3	14*			SECS-P/13	Other	Second Semester
507220 - PLANNING, MANAGEMENT AND SUPPLY OF GOODS AND SERVICES	3	14*			ING-IND/35	Other	Second Semester
504860 - REGULATORY AFFAIRS NELLA PROGETTAZIONE, SVILUPPO E CERTIFICAZIONE DI DISPOSITIVI MEDICI	3	14*			ING-INF/06	Other	Second Semester
510172 - ETICA PER LA PROGETTAZIONE SOSTENIBILE	6	14*			SECS-P/13	Other	Second Semester
504722 - PROJECT WORK IN COMPUTER ENGINEERING	6	14*			NN	Other	
503327 - MASTER THESIS	24			X	PROFIN_S	Final Exam	
<b>TOT. 60 CFU</b>							

\*Choose 12 CFU for choices n°12-13; choose 6 CFU for choice n°14

## TRACK 09 - EMBEDDED IOT SYSTEMS

## 1° Year - academic year 2023/2024

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
504714 - PROCESS CONTROL AND ROBOTICS	12	1		X			All Year
Teaching Unit of PROCESS CONTROL AND ROBOTICS							
504462 - PROCESS CONTROL	6				ING-INF/04	Distinctive	First Semester
504463 - ROBOT CONTROL	6				ING-INF/04	Distinctive	Second Semester
504710 - NUMERICAL METHODS IN ENGINEERING SCIENCES	6	2		X	MAT/08	Related/Supplementary	First Semester
504712 - ADVANCED COMPUTER ARCHITECTURE	6	3		X	ING-INF/05	Distinctive	First Semester
510173 - IOT MOBILE PROGRAMMING	6	4		X	ING-INF/05	Distinctive	First Semester
504716 - INDUSTRIAL INFORMATICS AND EMBEDDED SYSTEMS	6	5		X	ING-INF/05	Distinctive	Second Semester
504717 - INDUSTRIAL CONTROL	6	6		X	ING-INF/04	Distinctive	Second Semester
510800 - MACHINE AND DEEP LEARNING	12	7		X			Second Semester
Teaching Unit of MACHINE AND DEEP LEARNING							
509071 - MACHINE LEARNING	6				ING-INF/05	Distinctive	Second Semester
509073 - DEEP LEARNING	6				ING-INF/05	Distinctive	Second Semester
504464 - ORGANIZATION THEORY AND DESIGN	6	8*			SECS-P/06	Related/Supplementary	Second Semester
509037 - HARDWARE SOFTWARE CODESIGN	6	8*			ING-INF/05	Related/Supplementary	First Semester
509380 - PARALLEL PROGRAMMING	6	8*			ING-INF/05	Related/Supplementary	Second Semester
509674 - POWER ELECTRONICS	6	8*			ING-IND/32	Related/Supplementary	Second Semester
<b>TOT. 60 CFU</b>							

## 2° Year - academic year 2024/2025

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
510799 - ALGORITHMS AND SYSTEMS FOR ROBOTICS	6	9		X	ING-INF/05	Distinctive	First Semester
504723 - ELECTRICAL DRIVES FOR INDUSTRIAL APPLICATIONS	6	10		X	ING-IND/32	Related/Supplementary	First Semester
509037 - HARDWARE SOFTWARE CODESIGN	6	11*			ING-INF/05	Distinctive	First Semester
509584 - CLOUD COMPUTING	6	11*			ING-INF/05	Distinctive	First Semester

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509380 - PARALLEL PROGRAMMING	6	11*			ING-INF/05	Distinctive	Second Semester
FREE CHOICE FROM THE UNIVERSITY COURSE OFFER	12	12*-13*				Optional	
509037 - HARDWARE SOFTWARE CODESIGN	6	12*-13*			ING-INF/05	Optional	First Semester
509674 - POWER ELECTRONICS	6	12*-13*			ING-IND/32	Optional	Second Semester
510150 - MICROSENSORS, INTEGRATED MICROSYSTEMS AND MEMS	6	12*-13*			ING-INF/01	Optional	First Semester
509072 - WEB AND MULTIMEDIA TECHNOLOGIES	6	12*-13*			ING-INF/05	Optional	First Semester
502975 - PROGETTO DI SISTEMI DIGITALI	6	12*-13*			ING-INF/05	Optional	First Semester
509584 - CLOUD COMPUTING	6	12*-13*			ING-INF/05	Optional	First Semester
509380 - PARALLEL PROGRAMMING	6	12*-13*			ING-INF/05	Optional	Second Semester
509536 - ITALIAN LANGUAGE FOR FOREIGN STUDENTS	3	14*			NN	Other	First Semester
501246 - ETICA AMBIENTALE	3	14*			SECS-P/13	Other	Second Semester
507220 - PLANNING, MANAGEMENT AND SUPPLY OF GOODS AND SERVICES	3	14*			ING-IND/35	Other	Second Semester
504860 - REGULATORY AFFAIRS NELLA PROGETTAZIONE, SVILUPPO E CERTIFICAZIONE DI DISPOSITIVI MEDICI	3	14*			ING-INF/06	Other	Second Semester
510172 - ETICA PER LA PROGETTAZIONE SOSTENIBILE	6	14*			SECS-P/13	Other	Second Semester
504722 - PROJECT WORK IN COMPUTER ENGINEERING	6	14*			NN	Other	
503327 - MASTER THESIS	24			X	PROFIN_S	Final Exam	
<b>TOT. 60 CFU</b>							
*Choose 6 CFU for n°12, Choose 6 CFU for n° 13 and Choose 6 CFU for n° 14.							

**TRACK 10 - INTELLIGENT CONTROL SYSTEMS**

**1° Year - academic year 2023/2024**

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
504714 - PROCESS CONTROL AND ROBOTICS	12	1		X			All Year
Teaching Unit of PROCESS CONTROL AND ROBOTICS							
504462 - PROCESS CONTROL	6				ING-INF/04	Distinctive	First Semester
504463 - ROBOT CONTROL	6				ING-INF/04	Distinctive	Second Semester
504710 - NUMERICAL METHODS IN ENGINEERING SCIENCES	6	2		X	MAT/08	Related/Supplementary	First Semester
504712 - ADVANCED COMPUTER ARCHITECTURE	6	3		X	ING-INF/05	Distinctive	First Semester
504707 - ARTIFICIAL INTELLIGENCE	6	4		X	ING-INF/05	Distinctive	First Semester
509070 - STATISTICAL LEARNING THEORY	6	5		X	ING-INF/04	Distinctive	First Semester

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504464 - ORGANIZATION THEORY AND DESIGN	6	6			SECS-P/06	Related/Supplementary	Second Semester
509073 - DEEP LEARNING	6	6			ING-INF/05	Related/Supplementary	Second semester
509071 - MACHINE LEARNING	6	7		X	ING-INF/05	Distinctive	Second Semester
504717 - INDUSTRIAL CONTROL	6	8		X	ING-INF/04	Distinctive	Second Semester
FREE CHOICE FROM THE UNIVERSITY COURSE OFFER	6	9*				Optional	
509073 - DEEP LEARNING	6	9*			ING-INF/05	Optional	Second semester
509074 - DATA SCIENCE AND BIG DATA ANALYTICS	6	9*			ING-INF/05	Optional	Second Semester
509005 - OPTIMIZATION MODELS AND ALGORITHMS FOR DATA SCIENCE	6	9*			MAT/09	Optional	Second Semester
509380 - PARALLEL PROGRAMMING	6	9*			ING-INF/05	Optional	Second Semester
<b>TOT. 60 CFU</b>							

**2° Year - academic year 2024/2025**

Learning Activity	CFU	N°	N° (ind.)	Compu Isory	Scientific Area	Type of learning activity	Period
510799 - ALGORITHMS AND SYSTEMS FOR ROBOTICS	6	10		X	ING-INF/05	Distinctive	First Semester
504703 - COMPUTER VISION	6	11		X	ING-INF/05	Related/Supplementary	First Semester
510805 - NONLINEAR CONTROL AND OPTIMIZATION	12	12		X			First Semester
Teaching Unit of NONLINEAR OPTIMIZATION AND CONTROL							
510806 - NONLINEAR CONTROL	6				ING-INF/04	Distinctive	First Semester
510807 - OPTIMIZATION FOR CONTROL	6				ING-INF/04	Distinctive	First Semester
FREE CHOICE FROM THE UNIVERSITY COURSE OFFER	6	13*				Optional	
509073 - DEEP LEARNING	6	13*			ING-INF/05	Optional	Second semester
509072 - WEB AND MULTIMEDIA TECHNOLOGIES	6	13*			ING-INF/05	Optional	First Semester
510150 - MICROSENSORS, INTEGRATED MICROSYSTEMS AND MEMS	6	13*			ING-INF/01	Optional	First Semester
507219 - LOGISTICS MANAGEMENT	6	13*			ING-IND/17	Optional	First Semester
509536 - ITALIAN LANGUAGE FOR FOREIGN STUDENTS	3	14*			NN	Other	First Semester
501246 - ETICA AMBIENTALE	3	14*			SECS-P/13	Other	Second Semester
507220 - PLANNING, MANAGEMENT AND SUPPLY OF GOODS AND SERVICES	3	14*			ING-IND/35	Other	Second Semester
504860 - REGULATORY AFFAIRS NELLA PROGETTAZIONE, SVILUPPO E CERTIFICAZIONE DI DISPOSITIVI MEDICI	3	14*			ING-INF/06	Other	Second Semester
510172 - ETICA PER LA PROGETTAZIONE SOSTENIBILE	6	14*			SECS-P/13	Other	Second Semester

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504722 - PROJECT WORK IN COMPUTER ENGINEERING	6	14*			NN	Other	
503327 - MASTER THESIS	24			X	PROFIN_S	Final Exam	
<b>TOT. 60 CFU</b>							
*Choose 6 CFU for n° 13 and Choose 6 CFU for n° 14.							

- [The semester assigned to each learning activity may change. Refer to the time schedule published in the faculty website for confirmation](#)
- [For more information please refer to the course catalogue](#)

**Date** .....

**Signature** .....

**The study plan is not to be modified. Students can apply for an exception but they have to submit a valid motive. When a student submit a change which is not proposed in a standard study plan, the study plan became an individual study plan.**

**In order to do so, draw a line on the subject you wish to change, add the new subject in the orange boxes at the end of the study plan.**

**Insert the progressive number assigned to the subject you wish to change.**

**Please note that a revenue stamp of 16€ is due to apply for an individual study plan. This new plan will have to be approved by the committee designated by the competent Teaching Council.**