

## University of Pavia

## Study Course: ELECTRONIC ENGINEERING - 06416

Classe LM-29 Ingegneria elettronica

Regulations 2013/2014 - Course Regulations a.y. 2021/2022

## Study Plan academic year 2021/2022

To be submitted online from October 7th to November 2nd 2021 (enrolled student only)

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

## TRACK 01 - MICROELECTRONICS

## 1° Year - academic year 2021/2022

| Learning Activity                                    | CFU | N° | N° (ind.) | Compulsory | Scientific Area | Type of learning activity | Period          |
|--|-----|----|-----------|------------|-----------------|---------------------------|-----------------|
| 504434 - ADVANCED MATHEMATICAL METHODS FOR ENGINEERS | 9   | 1  |           | X          | MAT/05          | Related/Supplementary     | First Semester  |
| 504439 - RF MICROELECTRONICS                         | 9   | 2  |           | X          | ING-INF/01      | Distinctive               | Second Semester |
| 505002 - ELECTRONIC INSTRUMENTATION AND TECHNOLOGIES | 9   | 3  |           | X          | ING-INF/01      | Distinctive               | First Semester  |
| 507294 - INTRODUCTION TO QUANTUM MECHANICS           | 3   | 4  |           | X          | FIS/03          | Related/Supplementary     | First Semester  |
| 504437 - MICROWAVES                                  | 9   | 5  |           | X          | ING-INF/02      | Distinctive               | Second Semester |
| 504990 - INTEGRATED CIRCUIT DEVICES                  | 9   | 6  |           | X          | ING-INF/01      | Distinctive               | Second Semester |
| 504440 - DIGITAL IC DESIGN                           | 6   | 7  |           | X          | ING-INF/01      | Distinctive               | Second Semester |
| 504435 - ANALOG INTEGRATED CIRCUITS                  | 9   | 8  |           | X          | ING-INF/01      | Distinctive               | First Semester  |
|  |     |    |           |            |                 |                           |                 |
|  |     |    |           |            |                 |                           |                 |
| <b>TOT. 63 CFU</b>                                   |     |    |           |            |                 |                           |                 |

## 2° Year - academic year 2022/2023

| Learning Activity                                    | CFU | N°  | N° (ind.) | Compulsory | Scientific Area | Type of learning activity | Period          |
|--|-----|-----|-----------|------------|-----------------|---------------------------|-----------------|
| 509352 - INTEGRATED POWER MANAGEMENT                 | 6   | 9   |           |            | ING-INF/01      | Distinctive               | First Semester  |
| 504444 - ANTENNAS                                    | 6   | 9   |           |            | ING-INF/02      | Distinctive               | First Semester  |
| 505021 - ELECTRO-OPTICAL INSTRUMENTATION             | 6   | 9   |           |            | ING-INF/01      | Distinctive               | First Semester  |
| 509685 - ANALOG-DIGITAL INTERFACE CIRCUITS           | 6   | 10  |           | X          | ING-INF/01      | Related/Supplementary     | First Semester  |
| 502993 - MICROSENSORI, MICROSISTEMI INTEGRATI E MEMS | 6   | 11  |           |            | ING-INF/01      | Related/Supplementary     | First Semester  |
| 509686 - STATISTICAL SIGNAL PROCESSING               | 6   | 11  |           |            | ING-INF/03      | Related/Supplementary     | First Semester  |
| FREE CHOICE FROM THE UNIVERSITY COURSE OFFER         | 12  | 12* |           |            |                 | Optional                  |                 |
| 509352 - INTEGRATED POWER MANAGEMENT                 | 6   | 12* |           |            | ING-INF/01      | Optional                  | First Semester  |
| 504998 - DIGITAL COMMUNICATIONS                      | 6   | 12* |           |            | ING-INF/03      | Optional                  | Second Semester |
| 505021 - ELECTRO-OPTICAL INSTRUMENTATION             | 6   | 12* |           |            | ING-INF/01      | Optional                  | First Semester  |
| 504717 - INDUSTRIAL CONTROL                          | 6   | 12* |           |            | ING-INF/04      | Optional                  | Second Semester |

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|  |    |      |  |   |            |            |                  |
|--|----|------|--|---|------------|------------|------------------|
| 507288 - INTERNET AND MULTIMEDIA                               | 6  | 12*  |  |   | ING-INF/03 | Optional   | First Semester   |
| 502993 - MICROSENSORI, MICROSISTEMI INTEGRATI E MEMS           | 6  | 12*  |  |   | ING-INF/01 | Optional   | First Semester   |
| 505006 - MICROWAVE MEASUREMENTS                                | 6  | 12*  |  |   | ING-INF/02 | Optional   | First Semester   |
| 504464 - ORGANIZATION THEORY AND DESIGN                        | 6  | 12*  |  |   | SECS-P/06  | Optional   | Second Semester  |
| 504462 - PROCESS CONTROL                                       | 6  | 12*  |  |   | ING-INF/04 | Optional   | First Semester   |
| 504993 - QUANTUM ELECTRONICS                                   | 6  | 12*  |  |   | FIS/03     | Optional   | First Semester   |
| 505000 - RADAR REMOTE SENSING                                  | 6  | 12*  |  |   | ING-INF/02 | Optional   | Second Semester  |
| 504463 - ROBOT CONTROL   | 6  | 12*  |  |   | ING-INF/04 | Optional   | Second Semester  |
| 505017 - SATELLITE AND SPACE SYSTEMS                           | 6  | 12*  |  |   | ING-INF/02 | Optional   | First Semester   |
| 505012 - LASER SAFETY  | 6  | 12*  |  |   | FIS/03     | Optional   | First Semester   |
| 503188 - STRUMENTAZIONE BIOMEDICA LM                           | 6  | 12*  |  |   | ING-INF/06 | Optional   | First Semester   |
| 504708 - ECONOMICS FOR THE DIGITAL SOCIETY                     | 6  | 12*  |  |   | SECS-P/06  | Optional   | Second Semester  |
| 508744 - BIOELETTROMAGNETISMO APPLICATO                        | 6  | 12 * |  |   | ING-INF/02 | Optional   | Secondo Semestre |
| 509037 - HARDWARE SOFTWARE CODESIGN                            | 6  | 12 * |  |   | ING-INF/05 | Optional   | Second Semester  |
| 505013 - ADVANCED TOPICS IN MICROWAVE TECHNOLOGIES             | 3  | 13*  |  |   | ING-INF/02 | Other      | All Year         |
| 501246 - ETICA AMBIENTALE                                      | 3  | 13*  |  |   | SECS-P/13  | Other      | Second Semester  |
| 509350 - ETICA PER LA PROGETTAZIONE                            | 3  | 13*  |  |   | SECS-P/13  | Other      | Second Semester  |
| 509379 - INDUSTRIAL TOPICS IN MICROELECTRONICS AND PHOTONICS   | 3  | 13*  |  |   | ING-INF/01 | Other      | All Year         |
| 507220 - PLANNING, MANAGEMENT AND SUPPLY OF GOODS AND SERVICES | 3  | 13*  |  |   | ING-IND/35 | Other      | Second Semester  |
| 503327 - MASTER THESIS   | 24 |      |  | X | PROFIN_S   | Final Exam |                  |
|  |    |      |  |   |            |            |                  |
|  |    |      |  |   |            |            |                  |
| <b>TOT. 57 CFU</b>   |    |      |  |   |            |            |                  |

\*Choose a total of 12 CFU for choice n°12; choose 3 CFU for choice n°13.

**TRACK 02 - PHOTONICS**

**1° Year - academic year 2021/2022**

| Learning Activity   | CFU | N° | N° (ind.) | Compulsory | Scientific Area | Type of learning activity | Period          |
|---|-----|----|-----------|------------|-----------------|---------------------------|-----------------|
| 504434 - ADVANCED MATHEMATICAL METHODS FOR ENGINEERS                | 9   | 1  |           | X          | MAT/05          | Related/Supplementary     | First Semester  |
| 504992 - OPTOELECTRONIC DEVICES                                     | 9   | 2  |           | X          | ING-INF/01      | Distinctive               | First Semester  |
| 508745 - INTRODUCTION TO QUANTUM MECHANICS AND QUANTUM TECHNOLOGIES | 6   | 3  |           | X          | FIS/03          | Related/Supplementary     | First Semester  |
| 504993 - QUANTUM ELECTRONICS  | 6   | 4  |           | X          | FIS/03          | Related/Supplementary     | First Semester  |
| 504437 - MICROWAVES   | 9   | 5  |           | X          | ING-INF/02      | Distinctive               | Second Semester |
| 504994 - OPTICAL COMMUNICATIONS                                     | 9   | 6  |           | X          | ING-INF/01      | Distinctive               | Second Semester |
| 504996 - NONLINEAR OPTICS   | 6   | 7  |           | X          | FIS/03          | Related/Supplementary     | Second Semester |
| 504998 - DIGITAL COMMUNICATIONS                                     | 6   | 8  |           | X          | ING-INF/03      | Related/Supplementary     | Second Semester |
|   |     |    |           |            |                 |                           |                 |

|                    |  |  |  |  |  |  |  |
|--------------------|--|--|--|--|--|--|--|
|                    |  |  |  |  |  |  |  |
| <b>TOT. 60 CFU</b> |  |  |  |  |  |  |  |

**2° Year - academic year 2022/2023**

| Learning Activity  | CFU | N°  | N° (ind.) | Compulsory | Scientific Area | Type of learning activity | Period           |
|--|-----|-----|-----------|------------|-----------------|---------------------------|------------------|
| 505021 - ELECTRO-OPTICAL INSTRUMENTATION                       | 6   | 9   |           | X          | ING-INF/01      | Distinctive               | First Semester   |
| 505015 - INDUSTRIAL LASER DESIGN                               | 6   | 10  |           | X          | ING-INF/01      | Distinctive               | First Semester   |
| 504999 - ANTENNAS AND PROPAGATION                              | 9   | 11  |           | X          | ING-INF/02      | Distinctive               | First Semester   |
| FREE CHOICE FROM THE UNIVERSITY COURSE OFFER                   | 12  | 12* |           |            |                 | Optional                  |                  |
| 504717 - INDUSTRIAL CONTROL                                    | 6   | 12* |           |            | ING-INF/04      | Optional                  | Second Semester  |
| 507288 - INTERNET AND MULTIMEDIA                               | 6   | 12* |           |            | ING-INF/03      | Optional                  | First Semester   |
| 502993 - MICROSENSORI, MICROSYSTEMI INTEGRATI E MEMS           | 6   | 12* |           |            | ING-INF/01      | Optional                  | First Semester   |
| 505006 - MICROWAVE MEASUREMENTS                                | 6   | 12* |           |            | ING-INF/02      | Optional                  | First Semester   |
| 502987 - OPTOELETTRONICA BIOMEDICA                             | 6   | 12* |           |            | ING-INF/01      | Optional                  | Second Semester  |
| 504464 - ORGANIZATION THEORY AND DESIGN                        | 6   | 12* |           |            | SECS-P/06       | Optional                  | Second Semester  |
| 504462 - PROCESS CONTROL                                       | 6   | 12* |           |            | ING-INF/04      | Optional                  | First Semester   |
| 505000 - RADAR REMOTE SENSING                                  | 6   | 12* |           |            | ING-INF/02      | Optional                  | Second Semester  |
| 504463 - ROBOT CONTROL   | 6   | 12* |           |            | ING-INF/04      | Optional                  | Second Semester  |
| 505017 - SATELLITE AND SPACE SYSTEMS                           | 6   | 12* |           |            | ING-INF/02      | Optional                  | First Semester   |
| 505012 - LASER SAFETY  | 6   | 12* |           |            | FIS/03          | Optional                  | First Semester   |
| 503188 - STRUMENTAZIONE BIOMEDICA LM                           | 6   | 12* |           |            | ING-INF/06      | Optional                  | First Semester   |
| 509685 - ANALOG-DIGITAL INTERFACE CIRCUITS                     | 6   | 12* |           |            | ING-INF/01      | Optional                  | First Semester   |
| 504708 - ECONOMICS FOR THE DIGITAL SOCIETY                     | 6   | 12* |           |            | SECS-P/06       | Optional                  | Second Semester  |
| 508744 - BIOELETTRONICA APPLICATO                              | 6   | 12* |           |            | ING-INF/02      | Optional                  | Secondo Semestre |
| 505013 - ADVANCED TOPICS IN MICROWAVE TECHNOLOGIES             | 3   | 13* |           |            | ING-INF/02      | Other                     | All Year         |
| 509379 - INDUSTRIAL TOPICS IN MICROELECTRONICS AND PHOTONICS   | 3   | 13* |           |            | ING-INF/01      | Other                     | All Year         |
| 501246 - ETICA AMBIENTALE                                      | 3   | 13* |           |            | SECS-P/13       | Other                     | Second Semester  |
| 509350 - ETICA PER LA PROGETTAZIONE                            | 3   | 13* |           |            | SECS-P/13       | Other                     | Second Semester  |
| 507220 - PLANNING, MANAGEMENT AND SUPPLY OF GOODS AND SERVICES | 3   | 13* |           |            | ING-IND/35      | Other                     | Second Semester  |
| 503327 - MASTER THESIS   | 24  |     |           | X          | PROFIN_S        | Final Exam                |                  |
| <b>TOT. 60 CFU</b>   |     |     |           |            |                 |                           |                  |

\*Choose a total of 12 CFU for choice n°12; choose 3 CFU for choice n°13.

**TRACK 03 - SPACE COMMUNICATION AND SENSING****1° Year - academic year 2021/2022**

| Learning Activity | CFU | N° | N° (ind.) | Compulsory | Scientific Area | Type of learning activity | Period |
|-------------------|-----|----|-----------|------------|-----------------|---------------------------|--------|
|-------------------|-----|----|-----------|------------|-----------------|---------------------------|--------|

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|   |   |   |  |   |            |                       |                 |
|---|---|---|--|---|------------|-----------------------|-----------------|
| 504434 - ADVANCED MATHEMATICAL METHODS FOR ENGINEERS                | 9 | 1 |  | X | MAT/05     | Related/Supplementary | First Semester  |
| 505018 - SATELLITE DATA ANALYSIS                                    | 9 | 2 |  | X | ING-INF/03 | Related/Supplementary | First Semester  |
| 504993 - QUANTUM ELECTRONICS  | 6 | 3 |  |   | FIS/03     | Related/Supplementary | First Semester  |
| 508745 - INTRODUCTION TO QUANTUM MECHANICS AND QUANTUM TECHNOLOGIES | 6 | 3 |  |   | FIS/03     | Related/Supplementary | First Semester  |
| 504999 - ANTENNAS AND PROPAGATION                                   | 9 | 4 |  | X | ING-INF/02 | Distinctive           | First Semester  |
| 504437 - MICROWAVES   | 9 | 5 |  | X | ING-INF/02 | Distinctive           | Second Semester |
| 504994 - OPTICAL COMMUNICATIONS                                     | 9 | 6 |  |   | ING-INF/01 | Distinctive           | Second Semester |
| 504439 - RF MICROELECTRONICS  | 9 | 6 |  |   | ING-INF/01 | Distinctive           | Second Semester |
| 505000 - RADAR REMOTE SENSING                                       | 6 | 7 |  | X | ING-INF/02 | Distinctive           | Second Semester |
| 504998 - DIGITAL COMMUNICATIONS                                     | 6 | 8 |  | X | ING-INF/03 | Related/Supplementary | Second Semester |
|   |   |   |  |   |            |                       |                 |
|   |   |   |  |   |            |                       |                 |
| <b>TOT. 63 CFU</b>  |   |   |  |   |            |                       |                 |

**2° Year - academic year 2022/2023**

| Learning Activity   | CFU | N°  | N° (ind.) | Compulsory | Scientific Area | Type of learning activity | Period           |
|---|-----|-----|-----------|------------|-----------------|---------------------------|------------------|
| 505021 - ELECTRO-OPTICAL INSTRUMENTATION                            | 6   | 9   |           |            | ING-INF/01      | Distinctive               | First Semester   |
| 505017 - SATELLITE AND SPACE SYSTEMS                                | 6   | 9   |           |            | ING-INF/02      | Distinctive               | First Semester   |
| 505006 - MICROWAVE MEASUREMENTS                                     | 6   | 10  |           | X          | ING-INF/02      | Distinctive               | First Semester   |
| 509686 - STATISTICAL SIGNAL PROCESSING                              | 6   | 11  |           | X          | ING-INF/03      | Related/Supplementary     | First Semester   |
| FREE CHOICE FROM THE UNIVERSITY COURSE OFFER                        | 12  | 12* |           |            |                 | Optional                  |                  |
| 505021 - ELECTRO-OPTICAL INSTRUMENTATION                            | 6   | 12* |           |            | ING-INF/01      | Optional                  | First Semester   |
| 504717 - INDUSTRIAL CONTROL   | 6   | 12* |           |            | ING-INF/04      | Optional                  | Second Semester  |
| 507288 - INTERNET AND MULTIMEDIA                                    | 6   | 12* |           |            | ING-INF/03      | Optional                  | First Semester   |
| 502993 - MICROSENSORI, MICROSISTEMI INTEGRATI E MEMS                | 6   | 12* |           |            | ING-INF/01      | Optional                  | First Semester   |
| 504464 - ORGANIZATION THEORY AND DESIGN                             | 6   | 12* |           |            | SECS-P/06       | Optional                  | Second Semester  |
| 504462 - PROCESS CONTROL  | 6   | 12* |           |            | ING-INF/04      | Optional                  | First Semester   |
| 504993 - QUANTUM ELECTRONICS  | 6   | 12* |           |            | FIS/03          | Optional                  | First Semester   |
| 505000 - RADAR REMOTE SENSING                                       | 6   | 12* |           |            | ING-INF/02      | Optional                  | Second Semester  |
| 504463 - ROBOT CONTROL  | 6   | 12* |           |            | ING-INF/04      | Optional                  | Second Semester  |
| 505017 - SATELLITE AND SPACE SYSTEMS                                | 6   | 12* |           |            | ING-INF/02      | Optional                  | First Semester   |
| 508745 - INTRODUCTION TO QUANTUM MECHANICS AND QUANTUM TECHNOLOGIES | 6   | 12* |           |            | FIS/03          | Optional                  |                  |
| 505012 - LASER SAFETY   | 6   | 12* |           |            | FIS/03          | Optional                  | First Semester   |
| 503188 - STRUMENTAZIONE BIOMEDICA LM                                | 6   | 12* |           |            | ING-INF/06      | Optional                  | First Semester   |
| 504708 - ECONOMICS FOR THE DIGITAL SOCIETY                          | 6   | 12* |           |            | SECS-P/06       | Optional                  | Second Semester  |
| 508744 - BIOELETTROMAGNETISMO APPLICATO                             | 6   | 12* |           |            | ING-INF/02      | Optional                  | Secondo Semestre |
| 505013 - ADVANCED TOPICS IN MICROWAVE TECHNOLOGIES                  | 3   | 13* |           |            | ING-INF/02      | Other                     | All Year         |

|  |    |     |  |   |            |            |                 |
|--|----|-----|--|---|------------|------------|-----------------|
| 509379 - INDUSTRIAL TOPICS IN MICROELECTRONICS AND PHOTONICS   | 3  | 13* |  |   | ING-INF/01 | Other      | All Year        |
| 501246 - ETICA AMBIENTALE                                      | 3  | 13* |  |   | SECS-P/13  | Other      | Second Semester |
| 509350- ETICA PER LA PROGETTAZIONE                             | 3  | 13* |  |   | SECS-P/13  | Other      | Second Semester |
| 507220 - PLANNING, MANAGEMENT AND SUPPLY OF GOODS AND SERVICES | 3  | 13* |  |   | ING-IND/35 | Other      | Second Semester |
| 503327 - MASTER THESIS   | 24 |     |  | X | PROFIN_S   | Final Exam |                 |
|  |    |     |  |   |            |            |                 |
|  |    |     |  |   |            |            |                 |
| <b>TOT. 57 CFU</b>   |    |     |  |   |            |            |                 |

\*Choose a total of 12 CFU for choice n°12; choose 3 CFU for choice n°13.

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.**