UNIVERSITÀ DI PAVIA

DIPARTIMENTO DI INGEGNERIA INDUSTRIALE E DELL'INFORMAZIONE

DEPARTMENT OF INGEGNERIA INDUSTRIALE E DELL'INFORMAZIONE

Corso di Laurea Magistrale in

Master's Degree in

ELECTRICAL ENGINEERING

PIANO DI STUDIO PER GLI ISCRITTI AL 2° ANNO – DM 270/'04 ANNO ACCADEMICO 2026/2027

STUDY PLAN FOR STUDENTS ENROLLED IN 2°YEAR – DM 270/04 ACADEMIC YEAR 2026/2027

da compilare online (ad iscrizione effettuata) */ To complete online (after enrollment)*

dal */ from*..... **al** */ to* .....

La/Il sottoscritta/o / *The undersigned*,

Matricola / *Matriculation number* .....

Cognome / *Surname*..... Nome / *Name*.....

Nata/o a / *Born in (city)* ..... Prov./ *State* ..... il / *on* .....

Residente in / *Resident in (city)*..... Prov./ *State* .....

CAP / *Postal code* ..... Via o Piazza / *Street name* .....

N. civico / *number* ..... Tel. / *Phone* .....

Gli studenti che intendono effettuare scelte diverse che si discostano dal modello di piano di studi che segue presenteranno un piano di studi individuale (per il quale è prevista una marca da bollo da euro 16,00 che verrà generata dagli uffici). Maggiori informazioni sono disponibili sulla pagina dedicata https://portale.unipv.it/it/didattica/corsi-di-laurea/studiare/piani-di-studio nella sezione "Eccezioni: il piano cartaceo".

Students who want to make choices not provided by the following form should submit an individual study plan (in this case administrative offices will generate a fee of €16 for an extra revenue stamp). More information is available at the dedicated website page: https://portale.unipv.it/it/didattica/corsi-di-laurea/studiare/piani-di-studio in the section "Exceptions: Study plan submitted in paper form".

APPROVATO NELLA RIUNIONE DEL CONSIGLIO DIDATTICO/CONSIGLIO DI DIPARTIMENTO DEL / *Approved in the session of the Teaching Council/Department Council on* .....

SI DICHIARA LA CONFORMITA' DEL PIANO INDIVIDUALE ALL'ORDINAMENTO DIDATTICO DEL CORSO DI STUDIO IN RELAZIONE ALLA COORTE DI APPARTENENZA DELLO STUDENTE (SCHEDA RAD). / *It is declared that the individual plan follows the course regulations depending on the student's year of enrollment (RAD form).*

FIRMA DEL REFERENTE DEL CORSO DI LAUREA MAGISTRALE/ *Signature of the Program Coordinator*

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1° Year - academic year 2025/2026 - 60 CFU

PERCORSO COMUNE

ATTIVITÀ FORMATIVA Courses	CFU cfu	Vecchio Settore Scientifico Old Disciplinary Sector	Nuovo Settore Scientifico New Disciplinary Sector	TAF/Ambito TAF/Teaching Field	Tipo Insegnamento Course Type	Periodo Period
509665 - APPLIED ELECTROMAGNETISM	12				Compulsory	All Year
Teaching Unit APPLIED ELECTROMAGNETISM						
509666 - NUMERICAL METHODS IN ELECTROMAGNETISM	*6*	*ING-IND/31*	*IIET-01/A*	*Distinctive/Ingegneria elettrica*	*Compulsory*	*First Semester*
509667 - OPTIMAL DESIGN IN ELECTROMAGNETISM AND ELECTROMAGNETIC ENVIRONMENTAL COMPATIBILITY	*6*	*ING-IND/31*	*IIET-01/A*	*Distinctive/Ingegneria elettrica*	*Compulsory*	*Second Semester*
509668 - ELECTRICAL SYSTEMS	12				Compulsory	First Semester
Teaching Unit ELECTRICAL SYSTEMS						
509669 - ADVANCED ELECTRICAL MACHINES	*6*	*ING-IND/32*	*IIND-08/A*	*Distinctive/Ingegneria elettrica*	*Compulsory*	*First Semester*
509670 - ELECTRIC POWER SYSTEMS	*6*	*ING-IND/33*	*IIND-08/B*	*Distinctive/Ingegneria elettrica*	*Compulsory*	*First Semester*
509671 - INDUSTRIAL MEASUREMENTS AND COMMUNICATION SYSTEMS	9				Compulsory	First Semester
Teaching Unit INDUSTRIAL MEASUREMENTS AND COMMUNICATION SYSTEMS						
509672 - INDUSTRIAL COMMUNICATION SYSTEMS	*3*	*ING-IND/32*	*IIND-08/A*	*Related/Supplementary/Affine/Integrativa*	*Compulsory*	*First Semester*
509673 - INDUSTRIAL ELECTRICAL MEASUREMENTS	*6*	*ING-INF/07*	*IMIS-01/B*	*Distinctive/Ingegneria elettrica*	*Compulsory*	*First Semester*
509674 - POWER ELECTRONICS	6	ING-IND/32	IIND-08/A	Distinctive/Ingegneria elettrica	Compulsory	Second Semester
509675 - DESIGN AND TECHNOLOGY OF ELECTRICAL MACHINES	6	ING-IND/32	IIND-08/A	Distinctive/Ingegneria elettrica	Compulsory	Second Semester
509676 - ENERGY MANAGEMENT	9				Compulsory	Second Semester
Teaching Unit ENERGY MANAGEMENT						
508286 - PLANNING OF ENERGY CONVERSION SYSTEMS	*6*	*ING-IND/32*	*IIND-08/A*	*Distinctive/Ingegneria elettrica*	*Compulsory*	*Second Semester*
509677 - MICROGRIDS	*3*	*ING-IND/32*	*IIND-08/A*	*Related/Supplementary/Affine/Integrativa*	*Compulsory*	*Second Semester*
FREE CHOICE FROM THE UNIVERSITY COURSE OFFER	6					
509079 - ENERGY MARKETS AND SUPPLY STRUCTURE	6	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	First Semester
504115 - IMPIANTI DI ENERGIA SOLARE E DI ENERGIA DA BIOMASSE	6	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	First Semester
501062 - TERMOFISICA DELL'EDIFICIO	6	ING-IND/11	IIND-07/B	Optional/A scelta dello studente	Elective	First Semester
504462 - PROCESS CONTROL	6	ING-INF/04	IINF-04/A	Optional/A scelta dello studente	Elective	First Semester
504463 - ROBOT CONTROL	6	ING-INF/04	IINF-04/A	Optional/A scelta dello studente	Elective	Second Semester
510799 - ALGORITHMS AND SYSTEMS FOR ROBOTICS	6	ING-INF/05	IINF-05/A	Optional/A scelta dello studente	Elective	First Semester
504717 - INDUSTRIAL CONTROL	6	ING-INF/04	IINF-04/A	Optional/A scelta dello studente	Elective	Second Semester
507218 - ELECTRONICS FOR INDUSTRIAL MEASUREMENTS	6	ING-INF/01	IINF-01/A	Optional/A scelta dello studente	Elective	First Semester
510150 - MICROSENSORS, INTEGRATED MICROSYSTEMS AND MEMS	6	ING-INF/07	IMIS-01/B	Optional/A scelta dello studente	Elective	First Semester

502156 - ACCUMULO E CONVERSIONE DI ENERGIA	6	CHIM/02	CHEM-02/A	Optional/A scelta dello studente	Elective	First Semester
509712 - SCENARI ENERGETICI	6	GEO/02	GEOS-02/B	Optional/A scelta dello studente	Elective	First Semester
503297 - IMPIANTI EOLICI	3	ING-IND/03	IIND-01/C	Optional/A scelta dello studente	Elective	Second Semester
504126 - IMPIANTI IDROELETTRICI	3	ICAR/01	CEAR-01/A	Optional/A scelta dello studente	Elective	First Semester
503313 - TRAZIONE ELETTRICA	3	ING-IND/31	IIET-01/A	Optional/A scelta dello studente	Elective	Second Semester
509609 - MANAGEMENT OF PHOTOVOLTAIC SYSTEMS	3	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	Second Semester
509631 - DIAGNOSTICS FOR ELECTRICAL MACHINES	3	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	First Semester
510151 - SUSTAINABILITY MANAGEMENT	3	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	Second Semester
503356 - COMPLEMENTI DI ELETTRONICA	3	ING-INF/01	IINF-01/A	Optional/A scelta dello studente	Elective	Second Semester

2° Year - academic year 2026/2027 - 60 CFU

ATTIVITÀ FORMATIVA **Courses**	**CFU** **cfu**	**Vecchio Settore Scientifico** **Old Disciplinary Sector**	**Nuovo Settore Scientifico** **New Disciplinary Sector**	**TAF/Ambito** **TAF/Teaching Field**	**Tipo Insegnamento** **Course Type**	**Periodo** **Period**
509678 - INDUSTRIAL DRIVES	12				Compulsory	All Year
Teaching Unit INDUSTRIAL DRIVES						
504723 - ELECTRICAL DRIVES FOR INDUSTRIAL APPLICATIONS	*6*	*ING-IND/32*	*IIND-08/A*	*Distinctive/Ingegneria elettrica*	*Compulsory*	*First Semester*
510803 - ADVANCED ELECTRICAL DRIVES	*3*	*ING-IND/32*	*IIND-08/A*	*Related/Supplementary/Affine/Integrativa*	*Compulsory*	*Second Semester*
508303 - ENERGY EFFICIENCY IN COMPRESSED AIR SYSTEMS	*3*	*ING-IND/32*	*IIND-08/A*	*Related/Supplementary/Affine/Integrativa*	*Compulsory*	*Second Semester*
One course among:						
504710 - NUMERICAL METHODS IN ENGINEERING SCIENCES	6	MAT/08	MATH-05/A	Related/Supplementary/Affine/Integrativa	Elective	First Semester
502886 - SISTEMI DINAMICI: TEORIA E METODI NUMERICI	6	MAT/08	MATH-05/A	Related/Supplementary/Affine/Integrativa	Elective	First Semester
One course among:	6					
504464 - ORGANIZATION THEORY AND DESIGN	6	SECS-P/06	ECON-04/A	Related/Supplementary/Affine/Integrativa	Elective	Second Semester
509679 - PLANNING AND OPERATION OF POWER SYSTEMS	6	ING-IND/33	IIND-08/B	Related/Supplementary/Affine/Integrativa	Elective	Second Semester
509680 - ELECTRIC VEHICLES	6	ING-IND/32	IIND-08/A	Related/Supplementary/Affine/Integrativa	Elective	Second Semester
509681 - SYSTEMS AND TECHNOLOGIES FOR THE SMART GRID	6	ING-IND/33	IIND-08/B	Related/Supplementary/Affine/Integrativa	Elective	First Semester
509079 - ENERGY MARKETS AND SUPPLY STRUCTURE	6	ING-IND/32	IIND-08/A	Related/Supplementary/Affine/Integrativa	Elective	First Semester
504115 - IMPIANTI DI ENERGIA SOLARE E DI ENERGIA DA BIOMASSE	6	ING-IND/32	IIND-08/A	Related/Supplementary/Affine/Integrativa	Elective	First Semester
501062 - TERMOFISICA DELL'EDIFICIO	6	ING-IND/11	IIND-07/B	Related/Supplementary/Affine/Integrativa	Elective	First Semester
One course among:	6					
509679 - PLANNING AND OPERATION OF POWER SYSTEMS	6	ING-IND/33	IIND-08/B	Related/Supplementary/Affine/Integrativa	Elective	Second Semester
509680 - ELECTRIC VEHICLES	6	ING-IND/32	IIND-08/A	Related/Supplementary/Affine/Integrativa	Elective	Second Semester
509681 - SYSTEMS AND TECHNOLOGIES FOR THE SMART GRID	6	ING-IND/33	IIND-08/B	Related/Supplementary/Affine/Integrativa	Elective	First Semester
509079 - ENERGY MARKETS AND SUPPLY STRUCTURE	6	ING-IND/32	IIND-08/A	Related/Supplementary/Affine/Integrativa	Elective	First Semester

504464 - ORGANIZATION THEORY AND DESIGN	6	SECS-P/06	ECON-04/A	Related/Supplementary/Affine/Integrativa	Elective	Second Semester
504115 - IMPIANTI DI ENERGIA SOLARE E DI ENERGIA DA BIOMASSE	6	ING-IND/32	IIND-08/A	Related/Supplementary/Affine/Integrativa	Elective	First Semester
501062 - TERMOFISICA DELL'EDIFICIO	6	ING-IND/11	IIND-07/B	Related/Supplementary/Affine/Integrativa	Elective	First Semester
504462 - PROCESS CONTROL	6	ING-INF/04	IINF-04/A	Related/Supplementary/Affine/Integrativa	Elective	First Semester
504463 - ROBOT CONTROL	6	ING-INF/04	IINF-04/A	Related/Supplementary/Affine/Integrativa	Elective	Second Semester
510799 - ALGORITHMS AND SYSTEMS FOR ROBOTICS	6	ING-INF/05	IINF-05/A	Related/Supplementary/Affine/Integrativa	Elective	First Semester
504717 - INDUSTRIAL CONTROL	6	ING-INF/04	IINF-04/A	Related/Supplementary/Affine/Integrativa	Elective	Second Semester
507218 - ELECTRONICS FOR INDUSTRIAL MEASUREMENTS	6	ING-INF/01	IINF-01/A	Related/Supplementary/Affine/Integrativa	Elective	First Semester
510150 - MICROSENSORS, INTEGRATED MICROSYSTEMS AND MEMS	6	ING-INF/07	IMIS-01/B	Related/Supplementary/Affine/Integrativa	Elective	First Semester
502156 - ACCUMULO E CONVERSIONE DI ENERGIA	6	CHIM/02	CHEM-02/A	Related/Supplementary/Affine/Integrativa	Elective	First Semester
FREE CHOICE FROM THE UNIVERSITY COURSE OFFER	6					
509679 - PLANNING AND OPERATION OF POWER SYSTEMS	6	ING-IND/33	IIND-08/B	Optional/A scelta dello studente	Elective	Second Semester
509680 - ELECTRIC VEHICLES	6	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	Second Semester
509681 - SYSTEMS AND TECHNOLOGIES FOR THE SMART GRID	6	ING-IND/33	IIND-08/B	Optional/A scelta dello studente	Elective	First Semester
509079 - ENERGY MARKETS AND SUPPLY STRUCTURE	6	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	First Semester
504464 - ORGANIZATION THEORY AND DESIGN	6	SECS-P/06	ECON-04/A	Optional/A scelta dello studente	Elective	Second Semester
504115 - IMPIANTI DI ENERGIA SOLARE E DI ENERGIA DA BIOMASSE	6	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	First Semester
509682 - HISTORY OF TECHNOLOGY	6	ING-IND/31	IIET-01/A	Optional/A scelta dello studente	Elective	Second Semester
501062 - TERMOFISICA DELL'EDIFICIO	6	ING-IND/11	IIND-07/B	Optional/A scelta dello studente	Elective	First Semester
504462 - PROCESS CONTROL	6	ING-INF/04	IINF-04/A	Optional/A scelta dello studente	Elective	First Semester
504463 - ROBOT CONTROL	6	ING-INF/04	IINF-04/A	Optional/A scelta dello studente	Elective	Second Semester
510799 - ALGORITHMS AND SYSTEMS FOR ROBOTICS	6	ING-INF/05	IINF-05/A	Optional/A scelta dello studente	Elective	First Semester
504717 - INDUSTRIAL CONTROL	6	ING-INF/04	IINF-04/A	Optional/A scelta dello studente	Elective	Second Semester
507218 - ELECTRONICS FOR INDUSTRIAL MEASUREMENTS	6	ING-INF/01	IINF-01/A	Optional/A scelta dello studente	Elective	First Semester
510150 - MICROSENSORS, INTEGRATED MICROSYSTEMS AND MEMS	6	ING-INF/07	IMIS-01/B	Optional/A scelta dello studente	Elective	First Semester
502156 - ACCUMULO E CONVERSIONE DI ENERGIA	6	CHIM/02	CHEM-02/A	Optional/A scelta dello studente	Elective	First Semester
508100 - AUTOMATED MECHANICAL SYSTEM DESIGN	6	ING-IND/13	IIND-02/A	Optional/A scelta dello studente	Elective	Second Semester
511335 - ADVANCED POWER ELECTRONICS	3	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	Second Semester
509683 - SAFETY IN ENGINEERING AND TECHNOLOGY	3	ING-IND/31	IIET-01/A	Optional/A scelta dello studente	Elective	Second Semester
503297 - IMPIANTI EOLICI	3	ING-IND/03	IIND-01/C	Optional/A scelta dello studente	Elective	Second Semester
504126 - IMPIANTI IDROELETTRICI	3	ICAR/01	CEAR-01/A	Optional/A scelta dello studente	Elective	First Semester
503313 - TRAZIONE ELETTRICA	3	ING-IND/31	IIET-01/A	Optional/A scelta dello studente	Elective	Second Semester
509609 - MANAGEMENT OF PHOTOVOLTAIC SYSTEMS	3	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	Second Semester
509631 - DIAGNOSTICS FOR ELECTRICAL MACHINES	3	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	First Semester

503356 - COMPLEMENTI DI ELETTRONICA	3	ING-INF/01	IINF-01/A	Optional/A scelta dello studente	Elective	Second Semester
510151 - SUSTAINABILITY MANAGEMENT	3	ING-IND/32	IIND-08/A	Optional/A scelta dello studente	Elective	Second Semester
512144 - ENERGY STORAGE ENGINEERING	3	ING-IND/31	IIET-01/A	Optional/A scelta dello studente	Elective	First Semester
Two courses among:	6					
511335 - ADVANCED POWER ELECTRONICS	3	ING-IND/32	IIND-08/A	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	Second Semester
507220 - PLANNING, MANAGEMENT AND SUPPLY OF GOODS AND SERVICES	3	ING-IND/35	IEGE-01/A	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	Second Semester
500376 - PROGRESSO UMANO E SVILUPPO SOSTENIBILE	3	SECS-P/02	ECON-02/A	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	Second Semester
509683 - SAFETY IN ENGINEERING AND TECHNOLOGY	3	ING-IND/31	IIET-01/A	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	Second Semester
503297 - IMPIANTI EOLICI	3	ING-IND/03	IIND-01/C	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	Second Semester
504126 - IMPIANTI IDROELETTRICI	3	ICAR/01	CEAR-01/A	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	First Semester
503313 - TRAZIONE ELETTRICA	3	ING-IND/31	IIET-01/A	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	Second Semester
509609 - MANAGEMENT OF PHOTOVOLTAIC SYSTEMS	3	ING-IND/32	IIND-08/A	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	Second Semester
509631 - DIAGNOSTICS FOR ELECTRICAL MACHINES	3	ING-IND/32	IIND-08/A	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	First Semester
503356 - COMPLEMENTI DI ELETTRONICA	3	ING-INF/01	IINF-01/A	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	Second Semester
510151 - SUSTAINABILITY MANAGEMENT	3	ING-IND/32	IIND-08/A	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	Second Semester
509536 - ITALIAN LANGUAGE FOR FOREIGN STUDENTS*	3	NN	NN	Other/Altre conoscenze utili per l'inserimento nel mondo del lavoro	Elective	First Semester
503327 - MASTER THESIS	18	PROFIN_S	PROFIN_S	Final Exam/Per la prova finale	Elective	

***Students with a non-Italian qualification must choose "Italian Language for Foreign Students" and another course of 3 CFU among the ones suggested**

EVENTUALI ESAMI IN SOVRANNUMERO (MAX 24 CFU)

POSSIBLE EXTRA EXAMS (MAX 24 CFU)

ATTIVITÀ FORMATIVA *Courses*	**CFU** *Cfu*	**SETTORE** *Sector*	**YEAR** *Year*

Catalogo degli insegnamenti

Courses Catalogue

Data / *Date*.....

Firma dello studente / *Student's signature* .....