DOCTOR OF PHILOSOPHY (PHD) PROGRAMME IN *"Information Technologies for Engineering"* **Coordinator: Prof Massimiliano Di Penta (dipenta@unisannio.it)** **Interested applicants are encouraged to contact the coordinator for information on the curricula and the disciplinary areas**	
FACULTY & ADMINISTRATION	Dipartimento di Ingegneria [Department of Engineering]
DURATION	3 years (36 Months)
CURRICULA	**a) Information Technology** **b) Energy and Environment**
Scientific/Academic Disciplinary Fields (SSD)	01/A - MATHS 09/E - ELECTRICAL ENGINEERING, ELECTRONICS AND MEASURES 09/F –TELECOMMUNICATIONS AND ELECTROMAGNETIC FIELDS ENGINEERING 09/G - SYSTEMS ENGINEERING AND BIOENGINEERING 09/H - COMPUTER SCIENCE AND ENGINEERING 08/A – INFRASTRUCTURE AND TERRITORIAL ENGINEERING 08/B - STRUCTURAL AND GEOTECHNICAL ENGINEERING 08/F - PLANNING AND URBAN AND TERRITORIAL DESIGN 09/B - MANUFACTURING, PLANT AND MANAGEMENT ENGINEERING 09/C - ENERGY, THERMO-MECHANICAL AND NUCLEAR ENGINEERING 09/D - CHEMICAL AND MATERIALS ENGINEERING

AVAILABLE POSITIONS (27)

Positions funded by the Ministry of University and Research (5)	With scholarship (3)	**Curriculum A** **Curriculum B**
	Without scholarship (2)	**Curriculum A** **Curriculum B**
Positions funded by the Department of Excellence program (4)	With scholarship (4)	**Curriculum A** **Curriculum B**

Reserved Positions (4)	Positions reserved to applicants that achieved a scholarship in the country of origin	**2 positions**	*To apply to these positions, the applicant must declare to possess the documentation concerning the achieved scholarship.*
	Positions "PHD Executicve" reserved to employees of the following companies: GRUPPO FOS CONTRADER srl	**2 positions**	*To participate in this type of position, the candidate must declare that he or she is employed at the indicated company*

Positions with scholarship funded under the PNRR (4) DM 351/2022 *"Innovative PhD for Public Administration and Cultural Heritage" - "Didactics and advanced university skills"*	Scholarship n. 1 - **Topic Digital transitions**: *energy recovery from water networks by means of turbines / reverse pumps*	**1 position with scholarship**	*To apply in this type of position it is mandatory to carry out periods of study and research abroad and in business https://www.mur.gov.it/it/atti-e-normativa/decreto-ministeriale-n351-del-09-04-2022 To participate in this type of position, the candidate must declare that he or she is employed at the indicated company*
	Scholarship n. 2 – **Topic PNRR research:** *Big-data knowledge discovery for the analysis of the resilience of multi-vector energy systems*	**1 position with scholarship**	
	Scholarship n. 3 – **Topic Public Administration:** *Digitization of cultural heritage*	**1 position with scholarship**	
	Scholarship n. 4 – **Topic Public Administration:** *Digitization in the public administration*	**1 position with scholarship**	

Positions with scholarship funded under the PNRR (10) co-financed by companies DM 352/2022 **"***Introduction of innovative PhD that respond to the innovation needs of companies and promote the hiring of researchers from companies"*	Scholarship n. 1: Topic: *Development of sensors and IoT data acquisition systems* Company: CONTRADER SRL	**1 position with scholarship**	*To apply in this type of position it is mandatory to carry out periods of study and research abroad and in business https://www.mur.gov.it/it/atti-e-normativa/decreto-ministeriale-n351-del-09-04-2022* *To participate in this type of position, the candidate must declare that he or she is employed at the indicated company*
	Scholarship n. 2 Topic: *Smart Wearable Devices for Telemetry in Sport applications* Company: CONTRADER SRL	**1 position with scholarship**	
	Scholarship n. 3 – Topic *Pipeline development applied to Machine Learning models* Company: CONTRADER SRL	**1 position with scholarship**	
	Scholarship n. 4 – **Topic** *Development of innovative techniques for the creation and testing of solutions to support the virtualization of manufacturing processes* Company: CONTRADER SRL	**1 position with scholarship**	
	Scholarship n. 5 – Topic *Strategie di controllo per sistemi autonomi in ambito embedded"* Company: CONTRADER SRL	**1 position with scholarship**	
	Scholarship n. 6 – Topic *Behavior-enabled IoT: architecture and models* Company: ENGINEERING SPA	**1 position with scholarship**	
	Scholarship n. 7 – Topic *Data-driven cloud technologies for smart cities* Company: ENGINEERING SPA	**1 position with scholarship**	
	Scholarship n. 8 – Topic *Cybersecurity for Aerospace* Company: DONEXIT SRL	**1 position with scholarship**	
	Scholarship n. 9 – Topic *advanced tools for the development and testing of virtual reality environments* Company: MARE GROUP	**1 position with scholarship**	
	Scholarship n. 9 – Topic *Data analytics techniques and tools in the field of business process management*	**1 position with scholarship**	

Programme Entry Requirements	Italian second level specialization degree ("laurea specialistica") or Italian second level (Master equivalent) graduate degree ("laurea magistrale") in the following classes LM-4 Architettura e ingegneria edile-architettura LM-6 Biologia LM-7 Biotecnologie agrarie LM-8 Biotecnologie industriali LM-9 Biotecnologie mediche, veterinarie e farmaceutiche LM-17 Fisica LM-18 Informatica LM-20 Ingegneria aerospaziale e astronautica LM-21 Ingegneria biomedica LM-22 Ingegneria chimica LM-23 Ingegneria civile LM-24 Ingegneria dei sistemi edilizi LM-25 Ingegneria dell'automazione LM-26 Ingegneria della sicurezza LM-27 Ingegneria delle telecomunicazioni LM-28 Ingegneria elettrica LM-29 Ingegneria elettronica LM-30 Ingegneria energetica e nucleare LM-31 Ingegneria gestionale LM-32 Ingegneria informatica LM-33 Ingegneria meccanica LM-34 Ingegneria navale LM-35 Ingegneria per l'ambiente e il territorio LM-40 Matematica LM-44 Modellistica matematico-fisica per l'ingegneria LM-53 Scienza e ingegneria dei materiali LM-54 Scienze chimiche LM-66 Sicurezza informatica LM-91 Tecniche e metodi per la società dell'informazione 4/S (specialistiche in architettura e ingegneria edile) 20/S (specialistiche in fisica) 23/S (specialistiche in informatica) 25/S (specialistiche in ingegneria aerospaziale e astronautica) 26/S (specialistiche in ingegneria biomedica) 27/S (specialistiche in ingegneria chimica) 28/S (specialistiche in ingegneria civile) 29/S (specialistiche in ingegneria dell'automazione) 30/S (specialistiche in ingegneria delle telecomunicazioni) 31/S (specialistiche in ingegneria elettrica) 32/S (specialistiche in ingegneria elettronica) 33/S (specialistiche in ingegneria energetica e nucleare) 34/S (specialistiche in ingegneria gestionale) 35/S (specialistiche in ingegneria informatica) 36/S (specialistiche in ingegneria meccanica) 37/S (specialistiche in ingegneria navale) 38/S (specialistiche in ingegneria per l'ambiente e il territorio) 45/S (specialistiche in matematica) 50/S (specialistiche in modellistica matematico-fisica per l'ingegneria) 61/S (specialistiche in scienza e ingegneria dei materiali) 62/S (specialistiche in scienze chimiche) 100/S (specialistiche in tecniche e metodi per la società dell'informazione) Italian graduate degree obtained under the system/laws prior to Min Decree 509/99 and equivalent to the classes specified above.

			For students graduated in foreign Universities, the following (or equivalent) degrees are considered: Master degree or equivalent degree in Computer Science, Biomedical Engineering, Electrical Engineering, Computer Engineering, Software Engineering, Mechanical Engineering, Civil Engineering, Chemical Engineering, Energy Engineering, Aerospace Engineering, Mathematics, Physics, Material Science
Selection-Admissions: Policies & Procedures	Evaluation of Qualifications, Curriculum vitae and Oral Test		

	Evaluation of Qualifications	Upto 40 points	✓ Curriculum vitae with appropriate certification attesting exams taken and related marks/grades (up to 30 points);
			 ✓ Other (up to 10 points):
			    o letters of reference;
			    o motivation letter;
			    o publications;
			    o other training and/or research activities undertaken.

	Interview	Up to 60 points	The interview will last approximately 30 mins. Applicants are invited to prepare a presentation, of up to 15 mins, also including the use of audiovisual media, on a research topic that is consistent with the specific curriculum or disciplinary area chosen. Applicants should prepare one presentation for each curriculum/disciplinary areafor which they have applied. Candidates would need to achieve a minimum grade of 30/60 in the interview in order to pass the oral test. Candidates' English language skills and proficiency will also be evaluated on this occasion. The interview may be conducted via "*teleconference*" for foreign applicants not residing in Italy or for Italian applicants where circumstances so warrant, which should be justified based on appropriate documentation.
Selection-Admission Tests: Schedules	Oral Test Interview	Oral test dates, times and venues will be announced by way of a notice published on the University website at:http://www.unisannio.it/it/studente/laureato/dottorato-di-ricerca	
Selection-Admission Test Topic	Topic theme to be chosen by the candidate from among those covered by the PhD Programme disciplinary areas. For each specific curriculum/disciplinary area chosen, the candidate must identify and illustrate a specific research pathway.		