APPENDIX 2
LIST OF MAJORS SUITABLE FOR THE DOCTORAL PROGRAM

NO.	Major	Relevant major(s)	Related majors requiring bridging courses	Bridging course(s)*
1	Business Administration (9340101)	**Applicants who hold a Master's degree in the following majors:** - Business Administration; - Commercial Business. **Applicants who hold a Bachelor's degree with Distinction in the following majors:** - Business Administration; - Marketing; - Real Estate; - International Business; - Commercial Business; - E-commerce; - Fashion and Textile Business; - Human Resource Management.	**Applicants who hold a Master's degree in the following majors:** - Finance and Banking; - Insurance; - Accounting; - Auditing; - Management Science; - Public Administration; - Management Information Systems; - Office Administration; - Labour Relations; - Project Management; - Human Resource Management.	Completion of 14 credits, including the following courses: - Applied Scientific Research Methods in Business (02 credits); - Advanced Financial Management (03 credits); - Advanced Marketing Management (03 credits); - Advanced Human Resource Management (03 credits); - Advanced Operations Management (03 credits). Based on the Master's degree transcript or the issued certificate of bridging courses, the specialized Faculty will determine the number of additional courses required.
2	Finance and Banking (9340201)	**Applicants who hold a Master's degree or a Bachelor's degree with Distinction or higher in the following majors:** - Group of Majors in Finance;	**Applicants who hold a Master's degree in the following majors:** - Group of Specializations in Economics - Group of Majors in Business	- Money, Banking, and Financial Markets (03 credits); - Corporate Financial Management (03 credits); - Commercial Bank (03 credits);

NO.	Major	Relevant major(s)	Related majors requiring bridging courses	Bridging course(s)*
		- Group of Majors in Banking; - Group of Majors in Finance and Banking.	- Group of Majors in Accounting and Auditing - Group of Majors in Management and Administration - Group of Majors in Insurance. Or other majors that are not listed above shall be proposed by the Faculty's Science and Training Council and submitted to the President for consideration and decision.	- Portfolio Management (03 credits); - Advanced Financial Risk Management (03 credits); Based on the Master's degree transcript or the issued certificate of bridging courses, the specialized Faculty will determine the number of additional courses required.
3	Computational Science (9460107)	**Applicants who hold a Master's degree in the following majors:** - Computational Science; - Mathematics; - Mathematical Analysis; - Differential and Integral Equations; - Algebra and Number Theory; - Geometry and Topology; - Probability Theory and Mathematical Statistics; - Data Science; - Mathematical Foundations for Informatics; - Applied Mathematics;	**Applicants who hold a Master's degree in the following majors:** - Statistics; - Computer Science; - Artificial Intelligence; - Mechanics; - Solid Mechanics; - Civil Engineering; - Transportation Engineering; - Special Construction Engineering; - Theoretical Physics and Mathematical Physics; - Solid State Physics; - Atomic and Nuclear Physics;	Completion of **15 credits**, including the following courses: - Scientific Computing Environment (03 credits); - Scientific Data Visualization (03 credits); - Advanced Matrix Computation (03 credits); - Numerical Methods for Partial Differential Equations (03 credits); - Numerical Optimization (03 credits). Based on the Master's degree transcript or the issued certificate of bridging courses, the Institute will determine the number of additional courses required.

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		- Elementary Mathematical Methods; - Mathematics – Informatics. **Applicants who hold a Bachelor's degree with Distinction in the following majors:** - Computational Science; - Mathematics; - Data Science; - Applied Mathematics; - Mechanical Mathematics; - Mathematics – Informatics.	- Theoretical and Physical Chemistry; - Chemistry; - Organic Chemistry; - Chemical Engineering; - Materials Science; - Materials Engineering; - Or other majors that are not listed above shall be proposed by the Institute's Science and Training Council and submitted to the President for consideration and decision.	
4	Applied Mathematics (9460112)	**Applicants who hold a Master's degree in the following majors:** - Mathematics; - Mathematical Analysis; - Differential and Integral Equations; - Probability Theory and Mathematical Statistics; - Computational Science; - Data Science; - Applied Mathematics; - Mathematics and Informatics. **Applicants who hold a Bachelor's degree with**	**Applicants who hold a Master's degree in the following majors:** - Algebra and Number Theory; - Geometry and Topology; - Mathematical Foundations for Informatics; - Elementary Mathematics Methods; - Statistics; - Economic Statistics; - Economic Mathematics. Other majors that are not listed above shall be proposed by the	- Linear Algebra (03 credits); - Functional Analysis (04 credits); - Partial Differential Equations (03 credits); - Numerical Analysis (03 credits); - Nonlinear Programming (03 credits); - Optimization (03 credits); - Computational Statistics (04 credits). Based on the Bachelor's and Master's degree transcript, the Faculty's Science

NO.	Major	Relevant major(s)	Related majors requiring bridging courses	Bridging course(s)*
		Distinction or higher in the following majors: - Mathematics; - Mathematics and Informatics; - Mathematics and Mechanics; - Applied Mathematics; - Mathematics Teacher Education; - Statistics; - Data Science; - Computational Science. Other majors that are not listed above shall be proposed by the Faculty's Science and Training Council and submitted to the President for consideration and decision.	Faculty's Science and Training Council and submitted to the President for consideration and decision.	Council and Training will determine the number of additional courses required.
5	Computer Science (9480101)	**Applicants who hold a Master's degree in the following majors:** - Computer Science. **Applicants who hold a Bachelor's degree with Distinction or higher in the following majors:** - Computer Science. The degree programs offered by Ton Duc Thang University that	**Applicants who hold a Master's degree in the following majors:** - Data Science; - Information Technology; - Informatics; Other majors included in the group of Computer Science and Information Technology fields, as specified in the current official list of doctoral training majors	Completion of **09 credits**, including the following courses: - Machine Learning (03 credits); - Data Analysis (03 credits); - Mathematics for Computer Science (03 credits). Based on the Master's degree transcript or the issued certificate of bridging courses, the specialized faculty will

NO.	Major	Relevant major(s)	Related majors requiring bridging courses	Bridging course(s)*
		are at least 50% similar to the University's undergraduate Computer Science program include Software Engineering and Computer Networks and Data Communications.	issued by the Ministry of Education and Training.	determine the number of additional courses required.
6	Electrical Engineering (9520201)	**Applicants who hold a Master's degree in the following majors:** - Electrical Engineering; - Power Systems Engineering; - Electrical – Electronics Engineering; - Industrial Electricity; - Refrigeration and Air-Conditioning	**Applicants who hold a Master's degree in the following majors:** - Automation and Control Engineering; - Electronics Engineering; - Telecommunications Engineering; - Electronics - Communications Engineering - Electronics and Telecommunications Engineering; - Electronics; - Production Automation; - Mechatronics; - Mechatronics Engineering; - Industrial Informatics.	Completion of **06 credits**, including the following courses: - Advanced Power System Protection and Control (03 credits); - Electricity Market Structure and Operation (03 credits); - Power System Analysis (03 credits); - Intelligent Control (03 credits); - Optimization and Stability of Power System Operation (03 credits); - Automation control for motor drives (03 credits); - Robotics (03 credits); - Renewable sources and applications (03 credits); - Advanced Wireless Communications (03 credits); - Wireless Networks (03 credits); - Statistical Signal Processing (03 credits). Based on the Master's degree transcript or the issued certificate of bridging courses, the specialized faculty will

NO.	Major	Relevant major(s)	Related majors requiring bridging courses	Bridging course(s)*
				determine the number of additional courses required.
7	Automation and Control Engineering (9520216)	**Applicants who hold a Master's degree in the following majors:** - Automation and Control Engineering	**Applicants who hold a Master's degree in the following majors:** - Industrial Management - Energy Management - Logistics and Supply Chain Management - Engineering Mechanics - Mechanical Engineering - Mechatronics Engineering - Mechanical Power Engineering - Industrial Engineering - Industrial and Systems Engineering - Aerospace Engineering - Astronautical Engineering - Naval Engineering - Automotive Engineering - Energy Engineering - Marine Engineering - Electrical Engineering - Electronics Engineering - Telecommunications Engineering	Completion of **06 to 12 credits**, including the following courses: - Nonlinear and Adaptive Control Systems (03 credits); - Intelligent Control (03 credits); - Dynamics and Control of Robots (03 credits); - Multivariable Control (03 credits); - Microcontrollers and Embedded Systems (03 credits); - System Modeling and Identification (03 credits); - Process Control Automation (03 credits); - Advanced Power Electronics and Applications (03 credits); - Automatic Electric Drive Control (03 credits); Based on the Master's degree transcript or the issued certificate of bridging courses, the Faculty's Science Council and Training will determine the number of additional courses required.

NO.	Major	Relevant major(s)	Related majors requiring bridging courses	Bridging course(s)*
			- Cryptographic Engineering - Biomedical Engineering - Or other majors that are not listed above shall be proposed by the Faculty's Science and Training Council and submitted to the President for consideration and decision.	
		Applicants who hold a Bachelor's degree with Distinction or higher in the following majors: - Automation and Control Engineering; - Automation and Control Engineering Technology; - Mechatronics Engineering Technology; - Mechatronics Engineering; - Or other majors not listed above whose study programs differ by less than 10% of the total instructional periods, academic units, or credits of the specialized knowledge block compared with		Completion of **27 to 32 credits,** including the following courses: - Intelligent Control (03 credits); - Dynamics and Control of Robots (03 credits); - Multivariable Control (03 credits); - Microcontrollers and Embedded Systems (03 credits); - System Modeling and Identification (03 credits); - Process Control Automation (03 credits); - Flexible Manufacturing Systems and Computer-Integrated Manufacturing (03 credits); - Advanced Power Electronics and Applications (03 credits);

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		the Bachelor's program in Automation and Control Engineering of Ton Duc Thang University.		- Automatic Electric Drive Control (03 credits); - Digital Image Processing (03 credits); - Advanced Digital Signal Processing (03 credits); - Wireless Sensor Networks (03 credits); - Advanced Digital Design Using HDL (03 credits); - Renewable Energy and Applications (03 credits); - Architectures and IoT Protocols (03 credits); - Cloud Computing (03 credits); - Machine Learning and Applications (03 credits); - SCADA Systems and Substation Automation (03 credits); - Research Seminar on Power Measurement and Grid Monitoring (03 credits); - Research Seminar on Artificial Intelligence and Computer Vision (03 credits);

NO.	Major	Relevant major(s)	Related majors requiring bridging courses	Bridging course(s)*
				- Research Seminar on Robotics (03 credits); - Research Seminar on Mechatronics (03 credits); - Research Seminar on Drive Automation (03 credits); - Research Seminar on Measurement (03 credits); Based on the Bachelor's degree transcript or the issued certificate of bridging courses, the specialized Faculty will determine the number of additional courses required.
8	Civil Engineering (9580201)	**Applicants who hold a Master's degree in the following majors:** - Civil Engineering; - Hydraulic Engineering; - Coastal and Offshore Engineering; - Underground Engineering - Transportation Engineering; - Special Construction Engineering; - Infrastructure Engineering; - Geotechnical Engineering; - The degree programs previously offered by Ton Duc Thang	**Applicants who hold a Master's degree in the following majors:** - Construction Economics; - Urban and Regional Planning; - Urban and Construction Management; - Construction Management; - Water Resources Engineering; - Water Supply and Drainage Engineering; - Construction Materials; - The degree programs previously offered by Ton Duc Thang University that are at least 50%	Completion of **09 credits**, including the following courses: **Compulsory courses (06 credits):** - Finite Element Method in Strength of Materials (03 credits); - Advanced Structural Mechanics (03 credits); **Elective courses (03 credits)** - Advanced Steel Structures (03 credits); - Advanced Reinforced Concrete Structures (03 credits). Based on the Master's degree transcript or the issued certificate of bridging

NO.	Major	Relevant major(s)	Related majors requiring bridging courses	Bridging course(s)*
		University that are at least 80% similar to the Master's program in Civil Engineering of Ton Duc Thang University. **Applicants who hold a Bachelor's degree with Distinction or higher in the following majors:** - Civil Engineering; - Hydraulic Engineering; - Coastal and Offshore Engineering; - Transportation Engineering; - Infrastructure Engineering; - Geotechnical Engineering.	similar to the Master's program in Civil Engineering of Ton Duc Thang University.	courses, the specialized faculty will determine the number of additional courses required.

* For majors requiring bridging knowledge, learners must complete the required bridging courses before taking doctoral courses.