Application for Fall 2020 Admission-Graduates Program

Department	生物機電工程學系 Department of Biomechatronic Engineering	學位 Degree	碩士 Master
Medium of Instruction	English Teaching more than 25%		
Department Information			
Introduction	The Department of Biomechatronic Engineering of National Chiayi University (NCYU) was founded in 20000, and was located in the Lantan main campus. The department aims to cultivate the students in the fields of product, management, harvest, processing, and quality control for biological systems by applying the mechatronics technology. After completing all the technical courses, students with capability of developing mechatronic system, automation technology, biological products processing and storage, biological system facilities and environmental control are expected.		
Curriculum Planning	There are graduate and undergraduate programs in the Department of Biomechatronic Engineering. Fundamentals and application of science is the core curriculum. Integration of different fields is emphasized in order to enhance the students with capability to apply knowledge. Control, inspection, and development of mechatronic system are concentrated to meet the requirements of biological industry. The courses include Calculus, General Physics, General Physics Lab, General Chemistry, Graphics, Machine Shop Practice, Electronics, Electronics Lab, Electrical Engineering, Electrical Engineering Lab, Engineering Statics, Dynamics, Mechanics of Materials, Engineering Mathematics, Biological Industry Machinery, Internal combustion engines, Internal combustion engines Lab, Biological Industry Machinery Lab, Thermodynamics, Physical Properties of Biological Materials, Thermodynamics, Automatic Control, Electronics and Electrical Circuits, Principles and Applications of Sensors, Principles and Applications of Microprocessors, Fluid Mechanics, Mechatronics.		

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Future Map	The goal of our department is to establish integrated research programs of mechatronics and control techniques. The students will engage in the related fields of biological industry for engineering system design, manufacture and maintenance. They also can study in the graduate program of bio mechatronic engineering, mechanical engineering, electrical engineering, and food engineering for further education.		
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Subject	Course credits	Required subject	Elective subject
Seminar (I)	1	■	
Seminar (II)	1	■	
Seminar (III)	1	■	
Seminar (IV)	1	■	
Thesis	6	■	
Physiological Fluid Mechanics	3		■
Finite Element Analysis	3		■
Regression Analysis	3		■
Control and Application of Unmanned Aerial Vehicle (Drone)	3		■

Design to Micro-Nano System	3		■
Microprocessor Control	3		■
Experimental Design and Analysis	3		■
Physical Properties of Agricultural Products	3		■
Special Topic of Agricultural Machinery	3		■
Digital Control	3		■
Neural Network	3		■
Biological Mechanics	3		■
Biomaterial Fatigue Analysis	3		■
Environmental Control of Biological System	3		■
Quality Measurement of Biological Production	3		■
Biomedical Micro-Thermal-Fluidics Technology	3		■
Advanced Control Theory	3		■
Biological Environment Control Engineering	3		■
Process Control and System Integration	3		■
Digital Signal Processing	3		■