

Course Structure for Ph. D Program
Department of Industrial Education
National Taiwan Normal University

Adaptive to Class of	Required Credit(s)	Elective Credit(s)	Free Elective Credit(s)	Minimum Total Credits for Graduation
109	10.0	18.0	8.0	36.0

I. Required Courses: 10.0 credits are required

Course Category Code	Course Code	Course Name	Credit(s)	Credit Unit		Note
				Lecture Hour	Lab/Practice Hour	
450	IEC0014	1 Statistical Methods for Multivariate Analysis	2.0	2.0	0.0	
	IED0074	2 Research Methods in advanced Industrial Education	2.0	2.0	0.0	
	IED0075	3 Philosophy of Technological and Vocational Education	2.0	2.0	0.0	
510	IED0117	4 Seminar (I)	1.0	1.0	0.0	
510	IED0118	5 Seminar (II)	1.0	1.0	0.0	
510	IED0111	6 Seminar (III)	1.0	1.0	0.0	
510	IED0112	7 Seminar (IV)	1.0	1.0	0.0	

II. Elective Courses: 18.0 credits are required

Course Category Code	Course Code	Course Name	Credit(s)	Credit Unit		Note
				Lecture Hour	Lab/Practice Hour	
		1 Technical and vocational education system and policy field	6.0 credits are required			
450	IEC8002	1-1 Special Topics in Contemporary Technical-Vocational Education Policies	2.0	2.0	0.0	
	IED0064	1-2 Special Topics in Technical Vocational Education in European and American Countries	2.0	2.0	0.0	
	IED0068	1-3 Studies in Technical and Vocational Education and Economic Development	2.0	2.0	0.0	
	IED0069	1-4 Studies in Policy and Law of Technological and Vocational Education	2.0	2.0	0.0	
	IED0070	1-5 Studies in Vocational Technical Education and Social Development	2.0	2.0	0.0	
	IED0089	1-6 Special Topics in Technical Vocational Education of Asia-Pacific Area	2.0	2.0	0.0	
	IED0106	1-7 Industry-academy Cooperation in Technological and Vocational Education	2.0	2.0	0.0	
		2 Technical and vocational education administration and management field	6.0 credits are required			
500	IED0054	2-1 Special Topics in Vocational Technical Education Planning	2.0	2.0	0.0	
	IED0092	2-2 Educational Administration and Inspection for TVE	2.0	2.0	0.0	
	IED0120	2-3 Special Topics in Technical-Vocational Education School Management	2.0	2.0	0.0	
	IED0128	2-4 Studies in Assessment of Technological Vocational Education	2.0	2.0	0.0	
		3 Technical and vocational education curriculum and teaching field	6.0 credits are required			
455	IEC0003	3-1 Studies in Learning Theory of Technological and Vocational Education	2.0	2.0	0.0	
	IEC8004	3-2 Special Topics in Creative Thinking and Innovation of Technical-Vocational Education	2.0	2.0	0.0	
	IED0083	3-3 Studies in Career Planning and Consultation	2.0	2.0	0.0	
	IED0123	3-4 Special Topics in Teaching Methods of Technical-Vocational Education	2.0	2.0	0.0	
	IED0124	3-5 Special Topics in Test and Measurement Assessment of Technical-Vocational Education	2.0	2.0	0.0	
	IED0125	3-6 Special Topics in Technical-Vocational Education Curriculum Development	2.0	2.0	0.0	

III. Free Elective Credits: 8.0 credits are required