

Course Structure for M.A. Program
Technical and Vocational Education area, 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	14.0	10.0	8.0	32.0

I. Required Courses: 8.0 credits are required

Course Category Code	Course Code	Course Name	Credit(s)	Credit Unit		Note
				Lecture Hour	Lab/Practice Hour	
	IEM0001	1 Educational Statistics	2.0	2.0	0.0	
400	IEM0002	2 Research Methods in Industrial Education (I)	2.0	2.0	0.0	
400	IEM0084	3 Research Methods in Industrial Education (II)	2.0	2.0	0.0	
	IEM0179	4 Theories and Methods in Vocational Technical Education	2.0	2.0	0.0	

II. Elective Courses: 0.0 credit is required

III. Courses Offered to Students in Different Divisions

Required Course, 6.0 credits are required

Course Category Code	Course Code	Course Name	Credit(s)	Credit Unit		Note
				Lecture Hour	Lab/Practice Hour	
400	IEM0004	1 Seminar on Vocational Technical (I)	1.0	1.0	0.0	
400	IEM0178	2 Seminar on Vocational Technical (II)	1.0	1.0	0.0	
400	IEM0377	3 Seminar on Vocational Technical (III)	1.0	1.0	0.0	
400	IEM0378	4 Seminar on Vocational Technical(IV)	1.0	1.0	0.0	
400	IEM0095	5 Advanced Educational Statistics (I)	2.0	2.0	0.0	

Elective Course: 10.0 credits are required

Course Category Code	Course Code	Course Name	Credit(s)	Credit Unit		Note
				Lecture Hour	Lab/Practice Hour	
		1 Instrumental course				
	IEC0012	1-1 Experimental Design	2.0	2.0	0.0	
450	IEC0014	1-2 Statistical Methods for Multivariate Analysis	2.0	2.0	0.0	
450	IEC8006	1-3 Advanced Educational Statistics (II)	2.0	2.0	0.0	
	IEM0085	1-4 Data Processing and Analysis	3.0	3.0	0.0	
	IEM0322	1-5 Qualitative Research	2.0	2.0	0.0	
		2 Management and administrative expertise				
450	IEC8002	2-1 Special Topics in Contemporary Technical-Vocational Education Policies	2.0	2.0	0.0	
	IEM0019	2-2 Evaluation in Vocational Technological Education	2.0	2.0	0.0	
400	IEM0423	2-3 Program Factors Concepts and Elements in Technological and Vocational Education	2.0	2.0	0.0	
	IEM0354	2-4 Comparative Studies of Vocational Training Systems	2.0	2.0	0.0	
401	IEM0404	2-5 Technical-Vocational Education Administration and Supervision	2.0	2.0	0.0	
401	IEM0413	2-6 Enterprise-School Cooperative Theory and Practice	2.0	2.0	0.0	
401	IEM0415	2-7 Studies in Technical-Vocational Education Systems	2.0	2.0	0.0	
450	IEC8012	2-8 A Research on Applying Artificial Intelligence on Technological and Vocational Education	2.0	2.0	0.0	
		3				
	IEC0003	3-1 Studies in Learning Theory of Technological and Vocational Education	2.0	2.0	0.0	
400	IEM0424	3-2 The Study of Instructional Technology in Technological and Vocational Education	2.0	2.0	0.0	
401	IEM0406	3-3 Teaching Methods of Technical-Vocational Education	2.0	2.0	0.0	
401	IEM0408	3-4 Test and Measurement Assessment of Technical-Vocational Education	2.0	2.0	0.0	
401	IEM0409	3-5 Practical Shop Safety and Management of Technical-Vocational Education	2.0	2.0	0.0	
401	IEM0411	3-6 Career Development of Technical-Vocational Education	2.0	2.0	0.0	
401	IEM0414	3-7 Occupational Analysis	2.0	2.0	0.0	
401	IEM0407	3-8 Teaching Material and Instruction Design of Technical-Vocational Education	2.0	2.0	0.0	
401	IEM0410	3-9 Curriculum Development of Technical-Vocational Education	2.0	2.0	0.0	
451	IEM0412	4 Technical-Vocational Education Law	2.0	2.0	0.0	

	IEC0026	5 Digital Learning Environment Design	3.0	3.0	0.0
450	IEC8005	6 Social Media Application and Instruction	2.0	2.0	0.0
	IEM0145	7 Computerized Testing and Evaluation System	3.0	3.0	0.0
401	IEM0403	8 Practice Course and Instructional Design of Technical-Vocational Education	2.0	2.0	0.0
401	IEM0405	9 Comparative Studies of Technical-Vocational Education Issues	2.0	2.0	0.0
401	IEM0416	10 Technical-Vocational Education and Vocational Training	2.0	2.0	0.0
401	IEM0418	11 Stem and Technical Vocational Education	2.0	2.0	0.0
	IEC0010	12 The Special Topic in Energy Education	3.0	3.0	0.0
	IEM0098	13 Interdisciplinary Study of Industry Technology and Education	2.0	3.0	0.0

IV. Free Elective Credits: 8.0 credits are required