

ETS Department Core Assessment Matrix

Assessment Techniques Codes: MAP=Major Application Form
DCT=Department Core Test
GS=Graduate Survey
UGS=Undergraduate Survey
P=Portfolio
AB=Advisory Board

Student Outcomes	156	322	388	374	260	363	373	456
1. Compare the similarities and differences of all three of the majors offered within the ETS department.	-MAP							
2. Identify environmental problems and opportunities within technology and are able to relate the problems and opportunities to various technologies.					-DCT -GS -UGS -AB			
3. Analyze the principles, concepts, applications, and environmental problems of information and communication technologies.		-DCT -GS -UGS -AB						
4. Analyze the principles, concepts, applications, and environmental problems of various transportation, energy, and power technologies.			-DCT -GS -UGS -AB					
5. Analyze the principles, concepts, applications, and environmental problems of manufacturing and construction technologies.				-DCT -GS -UGS -AB				
6. Quantify, assess, and manage resources used to develop the designed world.						-DCT -GS -UGS -AB	-DCT -GS -UGS -AB	
7. Combine knowledge from all ETS courses to complete a senior project.								-P

ETS Department Technology Education Major Assessment Matrix

Assessment Techniques Codes: DCT=Department Core Test
 GS=Graduate Survey
 UGS=Undergraduate Survey
 PII=Praxis II
 TP=Transition Points
 AB=Advisory Board

Student outcomes *See Appendix A for more detail	Dept Core	115	253	336	345	353	AVIT 270	Tech Elect 9 cr.	182 Gen Ed
<i>1. Develop an understanding of the nature of technology within the context of the Designed World.</i>	-DCT -GS -UGS -PII -TP -AB								-GS -UGS -PII -TP -AB
<i>2. Develop an understanding of technology and society within the context of the Designed World.</i>	-DCT -GS -UGS -PII -TP -AB								-GS -UGS -PII -TP -AB
<i>3. Develop an understanding of design within the Designed World.</i>		-GS -UGS -PII -TP -AB							
<i>4. Develop abilities for a technological world within the contexts of the Designed World.</i>				-GS -UGS -PII -TP -AB	-GS -UGS -PII -TP -AB		-GS -UGS -PII -TP -AB	-GS -UGS -PII -TP -AB	

5. Develop an understanding of the Designed World.				-GS -UGS -PII -TP -AB	-GS -UGS -PII -TP -AB		-GS -UGS -PII -TP -AB	-GS -UGS -PII -TP -AB	
6. Design, implement, and evaluate curricula based upon Standards for Technological Literacy.			-GS -UGS -PII -TP -AB						
7. Use a variety of effective teaching practices that enhance and extend learning of technology.						-GS -UGS -PII -TP -AB II			
8. Design, create, and manage learning environments that promote technological literacy.						-GS -UGS -PII -TP -AB			

ETS Department Technology Education Major Assessment Matrix (Continued)

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Student outcomes	Dept Core	115	253	336	345	353	AVIT 270	Tech Elect 9 cr.	182 Gen Ed
*See Appendix A for more detail									

9. Understand students as learners, and how commonality and diversity affect learning.						-GS -UGS -PII -TP -AB			
10. Understand and value the importance of engaging in comprehensive and sustained professional growth to improve the teaching of technology.			-GS -UGS -PII -TP -AB						

Technology Assessment and Management Major Assessment Matrix

Assessment Techniques Codes: DCT=Department Core Test
 GS=Graduate Survey
 UGS=Undergraduate Survey
 NAIT=NAIT Industrial Technology Certification Test
 AB=Advisory Board

Student outcomes	Dept Core	115	BCIS 242	MGMT 301	MGMT 383	AVIT 270	Tech Elective 26 cr.
1. Analyze the principles, concepts, applications, and environmental problems of communications, transportation, energy, power, and production technologies.	DCT					-GS -UGS -NAIT -AB	
2. Quantify, assess, and manage resources used to develop new technologies.	DCT						
3. Collect, summarize and describe data, use estimation, hypotheses testing, analysis of variance, regression analysis as related to quality control and decision making.			-GS -UGS -NAIT -AB				
4. Analyze the principles of human resource management, operations management, organizational behavior and theory, and strategic decision responsibility.				-GS -UGS -NAIT			

				-AB			
5. Determine how manufacturing operations function to manage people, information, technology, materials, and facilities so as to produce goods and services.					-GS -UGS -NAIT -AB		
6. Use Microsoft Word, Excel, PowerPoint, Access, and CAD/CAM/CIM application software to complete assignments.		-GS -UGS -NAIT -AB					-GS -UGS -NAIT -AB
7. Identify basic physical and mechanical properties of metals, plastics, ceramics, and composites and understand the design aspects that are involved in making products.							-GS -UGS -NAIT -AB
8. Use basic mathematics/science to analyze and solve technological assessment and management problems.	DCT						
9. Demonstrate their use of basic engineering drawing to work and solve technological problems.		-GS -UGS -NAIT -AB					
10. Use computers to do programming, engineering drawing, and manufacturing drawing.		-GS -UGS -NAIT -AB					
11. Prepare written and oral technical reports both group and individual.		-GS -UGS -NAIT -AB				-GS -UGS -NAIT -AB	-GS -UGS -NAIT -AB
12. Use CAD application programs for the design of products, processes, and tooling.		-GS -UGS -NAIT					-GS -UGS -NAIT

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Technology Assessment and Management Major Assessment Matrix (Continued)

Assessment Techniques Codes: DCT=Department Core Test
 GS=Graduate Survey
 UGS=Undergraduate Survey
 NAIT=NAIT Industrial Technology Certification Test
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Student outcomes	Dept Core	115	BCIS 242	MGMT 301	MGMT 383	AVIT 270	Tech Elective 26 cr.
13. Determine and calculate the forces that affect basic mechanical devices and how basic systems should be designed.	DCT						-GS -UGS -NAIT -AB
14. Transfer part descriptions into a detailed process plan, tool selection, and NC codes to produce parts on a CNC mills and lathes.		-GS -UGS -NAIT -AB					
15. Successfully apply Statistical Process Control (SPC) procedures for the production of a product by understanding manufacturing concepts.							-GS -UGS -NAIT -AB
16. Identify and resolve manufacturing product and process problems related to quality control and product reliability.							-GS -UGS -NAIT -AB
16. Identify and resolve manufacturing product and process problems related to quality control and product reliability.							-GS -UGS -NAIT -AB
17. Demonstrate their skills working in groups to identify, analyze, and solve problems, and will report their findings.							-GS -UGS

							-NAIT -AB
18. Identify the rationale, benefits and drawbacks, and problems of using data networks in technological systems that is provided by computer networks.		-GS -UGS -NAIT -AB					-GS -UGS -NAIT -AB
19. Select, organize appropriately, and successfully use manufacturing processes, materials, tools, and systems to produce products.							-GS -UGS -NAIT -AB
20. Apply manufacturing concepts for planning, organizing, staffing, implementing, and controlling manufacturing operations.							-GS -UGS -NAIT -AB
21. Use concurrent engineering project management concepts and teamwork to design products, processes, tooling, and systems for the manufacturing of products.				-GS -UGS -NAIT -AB	-GS -UGS -NAIT -AB		-GS -UGS -NAIT -AB

Technology Assessment and Management Major Assessment Matrix (Continued)

Assessment Techniques Codes: DCT=Department Core Test
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Student outcomes	Dept Core	115	BCIS 242	MGMT 301	MGMT 383	AVIT 270	Tech Elective 26 cr.
22. Apply their technical knowledge in an industrial setting through internship opportunities.							-GS -UGS -NAIT -AB

23. Participate in the Industrial Advisory Council and with industry experts will provide guidance in updating the curriculum materials.								-GS -UGS -AB
24. Identify strengths and weaknesses, and provide suggestions regarding the Technology Assessment and Management program.								-GS -UGS -AB
25. Identify the importance of safety within the workplace and practice safe working habits in all ETS laboratories.		-GS -UGS -NAIT -AB					-GS -UGS -NAIT -AB	-GS -UGS -NAIT -AB

Environmental Studies Major Assessment Matrix

Assessment Techniques Codes: DCT=Department Core Test
 GS=Graduate Survey
 UGS=Undergraduate Survey
 AB=Advisory Board

Student outcomes	Dept Core	262	367	375	CHEM 101, 140, 210	ECON 351	MGMT 301	STAT 229 or 319	Tech Electives Group A, B C
1. Compare and contrast all technological systems used in society and how each of these technological systems relates to environmental problems.	-DCT	-GS -UGS -AB							-GS -UGS -AB
2. Apply the scientific and quantitative literacy principles and concepts to real-world environmental problem solving experiences.	-DCT	-GS -UGS -AB		-GS -UGS -AB	-GS -UGS -AB	-GS -UGS -AB		-GS -UGS -AB	-GS -UGS -AB
3. Apply state-of-the-art environmental measuring instrumentation to the solution of common environmental problems		-GS -UGS -AB			-GS -UGS -AB				-GS -UGS -AB
4. Apply sound research principles to the solution of environmental problems in society.	-DCT	-GS -UGS	-GS -UGS	-GS -UGS	-GS -UGS	-GS -UGS	-GS -UGS	-GS -UGS	-GS -UGS

		-AB	-AB	-AB	-AB	-AB	-AB	-AB	-AB
<i>5. Research scientific literature and develop writing skills to enhance environmental research projects and problems in both the private and public sector of society.</i>	-DCT								-GS -UGS -AB
<i>6. Apply an engaging and comprehensive professional growth program to improve the effectiveness and quality of environmental work within the private and public sector of society.</i>	-DCT					-GS -UGS -AB			-GS -UGS -AB
<i>7. Demonstrate effective and successful disposition in teamwork and leadership skills to improve the effectiveness of environmental work within the private and public sector of society.</i>	-DCT	-GS -UGS -AB	-GS -UGS -AB	-GS -UGS -AB			-GS -UGS -AB		-GS -UGS -AB

Master of Science Degree in ETS Assessment Matrix

Assessment Techniques Codes: ADM=Admission to Graduate Program
MAF=Major Application Form
PTA=Preliminary Thesis Approval
FTA=Final Thesis Approval
AM=Advisor Meetings
GEI=Graduate Exit Interview

Student Outcomes	505	601	604	668	650	673	670	671	Tech Elect	699
<i>1. Identify the universal characteristics of technology, its foundational technical developments and their effects upon culture including the use of tools, materials, process and systems.</i>	ADM MAF AM GEI									
<i>2. Compare the effects of invention and technology developments on society.</i>		ADM MAF AM GEI								

3. Describe current technological innovations, issues and events, and state their interrelationship to contemporary problems that face today's society.			ADM MAF AM GEI								
4. Analyze the literature of the industrial field, with special attention to individual readings and reports and be able to describe the implications of such literature for current problems in technology.				ADM MAF AM GEI							
5. Identify a research design, research the topic, and write a thesis.										PTA FTA	
6. Engage in various technical aspects the thematic fields of communications, construction, manufacturing, and/or transportation/energy.								GEI			
7. Examine innovative teaching strategies and their applications in the technology education classroom. (Technology Education Track only)					ADM MAF AM GEI						
8. Examine the contributors to the development of technology education with special attention to the economic, social, and philosophical factors motivating this development. (Technology Education Track only)						ADM MAF AM GEI					

Master of Science Degree in ETS Assessment Matrix (Continued)

Assessment Techniques Codes: ADM=Admission to Graduate Program
 MAF=Major Application Form
 PTA=Preliminary Thesis Approval
 FTA=Final Thesis Approval
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 GEI=Graduate Exit Interview

Student Outcomes	505	601	604	668	650	673	670	671	Tech Elect	699
9. Examine the elements and conventions used in writing technical research reports, and select a research area within the thematic areas of communications, construction, manufacturing, and/or transportation/energy. (Technical Research Track only)							ADM MAF AM GEI			
10. Explore the methods of experimentation in a technical environment and engage in technical experiments related to an aspect of communications, construction, manufacturing, and/or transportation/energy. (Technical Research Track only)								ADM MAF AM GEI		