

# The University Senate of Michigan Technological University

## Proposal 19-25

### “Minor in Economics and Society”

#### Basic Program Information

**Primary Contact:** Ann Hardin  
**Program/Degree type:** Minor  
**Program Title:** Minor in Economics and Society  
**Planned Implementation Date:** Fall 2025  
**Program location/modality:** on-campus  
**Target student population:** non-economics majors or minors

#### General description and characteristics of the program

The College of Business is proposing a new minor program in Economics and Society for use in the Essential Education program. This minor is designed to provide students with interdisciplinary skills and foundations in economics to apply in society. This minor is 19 credits, designed to meet the requirements of the Essential Education program, and is being submitted with approval from the Essential Ed Implementation Team.

This new minor will be administered by The College of Business and will be advised by the undergraduate advisor for the college or a part-time advisor. Future changes to the minor requirements will be reviewed and approved by the Essential Education Steering Committee.

#### Rationale

This minor theme was selected as a priority area by campus working groups and aligns with Michigan Tech’s current initiatives. The Economics and Society minor will expose students to economic topics utilized in their everyday lives and society. Students will gain skills to solve business, economic, and social challenges through the application of economic theories. The minor requires a blend of core economics courses and courses from other disciplines including social sciences, humanities, mathematics, and others. The minor provides students with interdisciplinary knowledge that will serve them in evaluating policy, business decisions, and social systems.

#### Related programs: within MTU and at other institutions

Currently we have a Bachelor’s of Science and a minor in Economics. Numerous colleges throughout the world have bachelor’s degrees (either a BA or BS) and minors in economics.

## Projected Enrollment

Historically the College of Business' economics minor had 40-50 students. While projected enrollment of the proposed Economics and Society minor is not clear, we believe there is capacity in the economics program to support 50 students in the additional minor with additional support. The proposed minor includes 18 communicating in society courses and 24 intercultural competency courses, and over 20 courses in the complementary societal skills category. The generous options across these categories will allow students to spread across the course options and choose courses relevant to their career goals.

The economics courses fall in two categories within the minor: foundations and special topics in economics. Some of these courses fill to capacity which may require additional teaching support. There are 9 economics courses in the special topics area of which students are required to take 6 credits. One of the special topics courses, EC 3400 Economic Decision Analysis, is currently taken by most engineering students on campus. We offer about 600 seats of this class a year, and there are generally about 30-50 open seats annually, this class will accommodate engineering students and newly interested students to the minor.

The foundations (SHAPE course) category may be a pinch point for capacity. We ask that each student in the minor take two of the following: EC2001 Principles of Economics, EC 3002 Microeconomic Theory, or EC 3003 Macroeconomic Theory. A majority of our economics courses have Principles of Economics as a prerequisite. Our Principles of Economics courses tend to be at capacity or only have less than 10 seats available in the Fall and Spring semesters. Both Macroeconomic and Microeconomic Theory are offered annually with a cap of 40 students. There are usually about 5-10 open seats in each of these courses. As these are foundational courses, the program does not want to greatly increase the capacity of these courses, so if we do see 50 additional students across the two classes, additional teaching support may be needed. It is worth noting that all three of these classes currently serve many non-econ and non-business students. Some of the students enrolling in the Economics and Society minor, may be the same students that would have already taken the class.

## Specialized Accreditation Requirements

None required.

## Professional Licensure Requirements

None required.

## Curriculum Details

### Learning Goals

Aligned Essential Ed Goals	Program Learning Outcomes
<b>Think Critically</b>	Question Assumptions: Students will be able to identify and evaluate the stated and unstated assumptions behind business, economic, and social challenges and the economic theories used to address them
<b>Communicate</b>	Communicate Quantitatively: Students will interpret quantitative data and choose appropriate methods and formats to communicate findings as they evaluate policy, business decisions, and social systems

### Assessment Plan

This minor will be assessed through the ePortfolio submissions. Students will be specifically asked to reflect on the learning goal(s) for the minor.

### Curriculum Design

**Total Credits:** 19

Course	Credits	Semesters offered	Pre-reqs
<b>Essentials of Economics ( SHAPE courses): 6 cr</b>			
EC 2001 Principles of Economics	3	FA/SP/SU	MA1020 or MA1031 or MA1032 or MA1120 or MA1135(C) or MA1161(C) or MA1121(C)
EC3002 Microeconomic Theory	3	SP	EC 2001 and (MA 1135 or MA 1160 or MA 1161 or MA 1121)
EC3003 Macroeconomic Theory	3	FA	EC 2001 and (MA 1135 or MA 1160 or MA 1121 or MA 1161)
<b>Special Topics in Economics (Upper SHAPE Courses): 3cr</b>			
EC3100 International Economics	3	FA/SP/SU	EC2001 and UN1015 and UN1025 or Modern Language- 3000 level or higher

Course	Credits	Semesters offered	Pre-reqs
EC3300 Industrial Organization	3	FA	EC2001
EC3400 Economic Decision Analysis	3	FA/SP/SU	
EC4050 Game Theory/Strategic Behavior	3	SP	
EC4400 Banking and Financial Institutions	3	FA	EC3003 or FIN3000
EC4620 Energy Economics	3	FA	EC2001
EC4630 Mineral Industry Economics	3	On Demand	EC2001
EC4640 Natural Resource Economics	3	FA	EC2001 or EC3002 or FW4080
EC4650 Environmental Economics	3	SP	EC2001 or EC3002
EC4710 Labor/Human Resource Economics	3	Spring Even Years	EC2001

Course	Credits	Semesters offered	Pre-reqs
<b>Communicating in Society: 3 cr [Communication Intensive]</b>			
AF3001 Leading People and Effective Communication	3	FA	
HU2810 Research Writing in Communication	3	SP Odd Years	UN 1015
HU2830 Public Speaking & Multimedia	3	FA/SP/SU	
HU3120 Technical and Professional Communications	3	FA/SP/SU	
HU3130 Rhetoric of Science and Technology	3	On Demand	UN1015
HU3693 Science Writing	3	SP Even Years	UN1015

HU3694 Grant Writing	3	FA Even Years	UN1015
HU3825 Environmental Communication	3	FA	UN1015
HU3832 Virtual Encounters	3	On Demand	UN1015
HU3845 Human Machine Communication	3	FA	UN1015
HU4625 Risk Communication	3	On Demand	UN1015
SS3520 U.S. Environmental History	3	FA	UN1015
SS3950 Topics in American History	3	On Demand	UN1015
SS3951 Topics in European History	3	On Demand	UN1015
SS4001 History of Social Thought	3	FA Even Years	UN1015
SS4040 Civic Communications	3	SP/SU	SS2001 and UN1015
SS4540 Global Environmental History	3	FA Odd Years	SS3520and UN1015

Intercultural Competency: 3 cr			
FW4111 Indigenous Natural Resource Management	3	SP	
HU3508 Literature and the Environment	3	FA Odd Years	UN1015

PSY3340 Psychology of Race	3	SP	PSY2000 and UN1015
PSY3720 Social Psychology	3	FA	PSY2000 and UN1015
PSY4340 Culture and Cognition	3	FA	PSY2000 or HF2000 and UN1015
SS3105 Native American and Indigenous Communities	3	On Demand	UN1015
SS3225 Capitalism and the Modern World	3	SP Even Years	UN1015
SS3260 Latin American Cultural History	3	FA Odd Years	UN1015
SS3612 International Relations	3	SP Even Years	UN1015
SS3640 Selected Topics in Cyber-Law	3	SP Odd Years	UN1015
SS3660 Constitutional Law	3	FA Odd Years	UN1015
SS3661 Civil Rights & Civil Liberties	3	SP Even Years	UN1015
SS3665 Crime, Incarceration, and Policy	3	FA Even Years	UN1015
SS3750 Social Inequality	3	FA Odd Years	UN1015
SS3805 Environmental Justice	3	SP Odd Years	UN1015

SS3811 Energy Security and Justice	3	FA Odd Years	UN1015
SS3920 Topics in Anthropology/ Archaeology	3	On Demand	UN1015
SS3961 Preparing for Cross-Cultural Immersion Experiences	3	SP	UN1015
SS4211 Ethnographic Methods	3	SP	UN1015
SS4420 Memory and Heritage	3	FA Odd Years	
SS4450 Sustainable Tourism and Planning	3	FA Even Years	(SS 2450 or SS 2100 or SS 2400 or SS 2700) and UN 1015
SS4710 Geographies of Migrant and National Communities	3	SP Odd Years	UN1015

Course	Credits	Semesters offered	Pre-reqs
<b>Complementary Societal Skills: 3 cr - [Unrestricted]</b>			
EC4100 Mathematical Economics	3	SP of odd years	EC 2001 and (MA 1160 or MA 1161 or MA 1121 or MA 1135)
EC4200 Econometrics	3	FA	(EC 2001 or EC 3002 or EC 3003) and (BUS 2100 or MA 2710 or MA 2720 or MA 3710) and (MA 1135 or MA 1160 or MA 1161 or MA 1121)
ENG1101 Engineering Analysis & Problem Solving	3	FA, SP, SU	MA1031(C) or MA1032(C) or MA1120(C) or MA1160(C) or MA1161(C) or MA1121(C) or MA2160(C) or MA3160(C) and Spatial Visualization Score>=19 or ENG1002(C)

FW2081 Intro to the Circular Economy	3	SP	
FW3510 Outdoor Recreation and Tourism	3	SP	
FW3540 Intro to GIS for Natural Resource Management	3	SP	MA2710(C) or MA2720(C) or MA3710(C) or ENVE3502 or CEE3502(C)
FW4080 Forest Economics and Finance	3	SP	
GE2010 Intro to GIS	3	FA	MA1160 or MA1161 or MA1121
MA2320 Elementary Linear Algebra*	2	FA, SP, SU	MA1160 or MA1161 or MA1135 or MA1121
MA2321 Elementary Linear Algebra*	2	FA, SP	MA2160
MA2330	3	FA/SP	MA1160 or MA1161 or MA1135 or MA1121
MA3160 Multivariate Calculus w/Tech	4	FA, SP, SU	MA2160 or CEEB Calculus BC $\geq$ 3
MA3520 Elementary Differential Equations*	2	FA, SP, SU	MA2160 and MA2320 or MA2321 or MA2330
MA3521 Elementary Differential Equations*	2	FA, SP	MA2160
MA3530 Introduction to Differential Equations	3	FA, SP	MA2160 and MA2320 or MA2321 or MA2330
MA3720 Probability	3	FA, SU	MA1160 or MA1161 or MA1121 or MA1135
MA4780 Time Series Analysis & Forecasting	3	SP	MA2710 or MA2720 or MA3710 or MA3715 and MA3720 or EE3180
MIS2100 Intro to Business Programming	3	FA	
MIS3100 Business Database Management	3	FA	MIS2000(C) or MIS2100 or CS1122 or



			CS1131
MIS4400 Business Intelligence and Analytics	3	SP	MIS2100 or CS1122 or CS1131 and MIS3100 or CS3425
MKT3600 Marketing Data Analytics	3	SP	MA2710 or MA2720 or MA3710 or BUS2100 and MKT3000
OSM3150 Introduction to Supply Chain Management	3	FA	OSM3000(C)
OSM3600 Procurement and Supply Management	3	FA	
SS2050 Foundations of GIS	3	FA Even Years	
SS3315 Population and Environment	3	FA Odd Years	UN1015
SS3755 Sustainability and the Private Sector	3	SP	UN1015
SS4120 Sustainable Development	3	FA	UN1015

Course	Credits	Semesters offered	Pre-reqs
<b>ePortfolio Submission: 1 cr -</b>			
UN3023 Advanced Portfolio for Essential Ed	1 cr	all	No Freshmen

\*Note: these are two credit courses; the requirement for this section is a minimum of three credits. If students choose to take one of these courses they will have to take an additional course in the category to reach the three credit requirement

## New Course Descriptions

No new courses are required to launch this minor.

## Model Schedule

The model schedule below shows an idealized sequence where the minor courses are completed in years 2 and 3, which is a recommended practice.

Semester	Year 1	Year 2	Year 3	Year 4
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Fall		Communicating in Society: HU3825 Environmental Communication (3)	Intercultural Competency: SS3260 Latin American Cultural History (3)	
		Foundations Course: EC3003 Macroeconomic Theory (3) - OR - Complementary Societal Skills: MA3530 Introduction to Differential Equations (3)	Special Topics in Economics: EC4400 Banking and Financial Institutions (3)	
Semester	Year 1	Year 2	Year 3	Year 4
Spring		Foundations Course (if not taken in fall): EC3002 Microeconomic Theory (3) - OR - Complementary Societal Skills (if not taken in fall): EC4100 Mathematical Economics (3)	Special Topics in Economics: EC3400 Economic Decision Analysis (3)	
			ePortfolio submission (1)	
Totals		9 credits	10 credits	

## Faculty Qualifications

Courses will be taught by faculty determined to be qualified by their respective home units. Faculty qualifications will be available upon request.

## Resources Needed

### Library and other learning resources needed

No new library resources are needed to support this minor.

### Suitability of existing space, facilities, and equipment

Current spaces and facilities are sufficient.

### Program Costs

No additional costs are anticipated to start this minor. Depending on enrollment, additional teaching and advising capacity may be needed.