

## 2026 New Southbound Policy Elite Study Program Mandatory Course List

### I. World Food Problems

Course Offering Department	General Education Center				
Course Type	Mandatory for Program Students	Credit	2	Professor	Vicky Chen
		Language	Eng.	Semester	2026 Fall
Course Description	Through an interdisciplinary scope, this course explores the global challenges of food security, including hunger, malnutrition, food production, and distribution. It examines the social, economic, and environmental factors shaping food systems and investigates food sovereignty, poverty, climate change, and population growth. Students will develop a deeper understanding of the interconnected systems driving world food problems and evaluate sustainable solutions for global cooperation, ethical food practices, and agricultural sustainability; furthermore, link the SDGs implementation to solve real-world problems.				
<b>Objectives</b>		<b>Core Competence</b>		<b>(%)</b>	
<ol style="list-style-type: none"> <li>1. Understand the causes and consequences of global food insecurity and malnutrition.</li> <li>2. Analyze the social, economic, and environmental factors influencing food production and distribution systems.</li> <li>3. Examine the impact of poverty, climate change, and population growth on global food systems.</li> <li>4. Apply critical thinking to assess policies and strategies to ensure equitable and sustainable food security.</li> <li>5. Foster awareness of global cooperation initiatives and their importance in addressing hunger and malnutrition.</li> </ol>		International Perspective Social Care		50 50	
Weekly Course Schedule					
Week	Content				
Week 1	Introduction and Background Overview (I) 1. Introduction to the course; 2. Ice-breaking section; 3. Introduction to world food issues				
Week 2	Introduction and Background Overview (I) 1. Introduction to the course; 2. Ice-breaking section; 3. Introduction to world food issues				
Week 3	Introduction and Background Overview (III) 1. Understanding malnutrition: definition and types 2. How to measure "Hunger?" *In-class activity (Tentative): Short quiz or interactive group competition				

Week 4	Impacts and Distribution of Hunger 1. Consequences of hunger on health and society *In-class discussion (Tentative): Who is affected, when, and where?
Week 5	Economic Perspectives on Food Supply and Demand 1. Basic economic principles of supply and demand in food markets 2. Factors influencing food availability 3. Impact of increasing population on food resources
Week 6	Population Growth and Food Demand 1. Impact of increasing population on food resources 2. Carrying capacity and sustainability
Week 7	Poverty, Prosperity, and Food Access 1. Economic disparities and their effect on food security 2. Equity issues regarding food distribution
Week 8	Review section 1. Synthetic reviews regarding contents from Week 1 to 7; 2. Mid-term review section
Week 9	Mid-term Exam
Week 10	Environmental Challenges to Agriculture 1. Issues related to agricultural land and water resources 2. Effects of environmental degradation and climate change on food production
Week 11	Technological Innovations in Food Production 1. Potential and challenges of new agricultural technologies 2. Case studies on technological interventions
Week 12	Education and Food Security; Final Project Instruction *In-class discussion (Tentative): creative ideas regarding food and agriculture education
Week 13	Policy Approaches to Alleviating Hunger 1. Philosophical perspectives on food policy 2. Roles of governments, NGOs, and international organizations *In-class activity: Group arrangement; Brain-storming for potential subject
Week 14	Future Scenarios and Sustainable Solutions 1. Projections for global food supply and demand 2. Strategies for achieving long-term food security
Week 15	Final Project Development
Week 16	Group Project Oral Presentation (Final)

## II. On the Path to Net Zero Transition

Course Offering Department	Department of Environmental Engineering				
Course Type	Mandatory for Program Students	Credit	2	Professor	Remi Chauvy
		Language	Eng.	Semester	2026 Fall
Course Description	This elective lecture provides an overview of the opportunities and challenges related to the net zero carbon transition. The science and policy of climate change will be discussed, including its evidences, causes, impacts and solutions, as well as the technologies and strategies that are				

	being developed to achieve decarbonization across the industry, energy, transportation, and building sectors.	
<b>Objectives</b>	<b>Core Competence</b>	<b>(%)</b>
1. Gain insight into the fundamental behind climate change, including the role of human activities altering the Earth climate system, and the need for decarbonization.	1. Professional engineering knowledge and application skills for solving environmental pollution problems and promoting sustainable development.	30
2. Evaluate and discuss challenges and opportunities associated with the decarbonization of the energy, transportation, and building sectors.	2. Capability of data-integrating, project management, effective-communication and teamwork.	30
3. Investigate the role of the industries, government, and society in the net zero transition.	3. Capability of independent-thinking, innovation and problem-solving.	40
Weekly Course Schedule		
Week	Content	
Week 1	Course introduction - Understanding Net Zero	
Week 2	Scientific Rationale of Climate Change: Causes, Evidence, Impacts	
Week 3	Net Zero Concept, Balancing Emissions and Removals	
Week 4	Global Agreements and International Cooperation for Net Zero Goals	
Week 5	Renewable Energy, Energy Storage and Electrification Strategies	
Week 6	Innovative Technologies for Emission Reduction (incl. Carbon Capture, Utilization, and Storage (CCUS))	
Week 7	Industry-Led Transition	
Week 8	Decarbonizing the Building Sector	
Week 9	Midterm Exam	
Week 10	Decarbonizing the Transport Sector (incl. Sustainable Urban Mobility)	
Week 11	Zero Waste and Low Carbon Diet	
Week 12	Policy, Economics, and Social Dimensions for Net Zero	
Week 13	Case studies: Regional Net Zero Transition	
Week 14	Challenges and Trade-Off in the Net Zero Transition	
Week 15	Projects Presentation	
Week 16	Poster Session	

### III. Other Reference (List a Few: Courses Chose from Former Program Students)

Area	Course Name	Course Offering Department	Credit
Liberal Arts	Business English	Foreign Languages and Literatures	2
	Writing for Special Purpose	Foreign Languages and Literatures	2
	Language, Culture and Communication	General Education Center	2
	Public Speaking and Academic Presentations	Language Center	2
Social Sciences	Islam and Middle Eastern Security Studies	Grad. Institute of International Affairs	3
	East Asian Political Economy	Grad. Institute of International Affairs	3
	Global China and International Order	Grad. Institute of International Affairs	3
	Films and International Relations	General Education Center	2
Natural Sciences	Introduction to Green-Energy Materials	Academy of Circular Economy	3
	Advanced Oxidation Processes for Water and Wastewater Treatment	Environmental Engineering	3
	Principles of Electron Microscopy	Material Sciences and Engineering	3
	Mechanics of Materials	Soil and Water Conservation	3
Management	Financial Management	College of Management	3
	Financial Statement Analysis	Finance	3
	Management of Technology Intensive Company	College of Life Sciences	3
	Emerging Technology and Industry Application	Grad. Institute of Technology Management	3