**AP HUG Course Articulation**

**Unit 1 Thinking Geographically**

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| **Enduring Understanding** | **Learning Objective** | **Essential Knowledge** |
| **Introduction to Maps** |  |  |
| Geographers use maps and data to depict relationships of time, space, and scale. | Identify types of maps, the types of information presented in maps, and different kinds of spatial patterns and relationships portrayed in maps. | * Types of maps include reference maps and thematic maps. * Types of spatial patterns represented on maps include absolute and relative distance and direction, clustering, dispersal, and elevation * All maps are selective in information; map projections inevitably distort spatial relationships in shape, area, distance, and direction. |
| **Geographic Data** |  |  |
| Geographers use maps and data to depict relationships of time, space, and scale. | Identify different methods of geographic data collection. | * Data may be gathered in the field by organizations or by individuals. * Geospatial technologies include geographic information systems (GIS), satellite navigation systems, remote sensing, and online mapping and visualization. * Spatial information can come from written accounts in the form of field observations, media reports, travel narratives, policy documents, personal interviews, landscape analysis, and photographic interpretation. |
| **The Power of Graphic Data** |  |  |
| Geographers use maps and data to depict relationships of time, space, and scale. | Explain the geographical effects of decisions made using geographical information. | * Geospatial and geographical data, including census data and satellite imagery, are used at all scales for personal, business and organizational, and governmental decision making purposes. |
| **Spatial Concepts** |  |  |
| Geographers analyze relationships among and between places to reveal important spatial patterns. | Define major geographic concepts that illustrate spatial relationships. | * Spatial concepts include absolute and relative location, space, place, flows, distance decay, time-space compression, and pattern. |
| **Human Environment Interaction** |  |  |
| Geographers analyze relationships among and between places to reveal important spatial patterns. | Explain how major geographic concepts illustrate spatial relationships. | * Concepts of nature and society include sustainability, natural resources, and land use. * Theories regarding the interaction of the natural environment with human societies have evolved from environmental determinism to possibilism. |
| **Scale of Analysis** |  |  |
| Geographers analyze relationships among and between places to reveal important spatial patterns. | Define scales of analysis used by geographers. | * Scales of analysis include global, regional, national, and local. |
|  | Explain what scales of analysis reveal. | * Patterns and processes at different scales reveal variations in, and different interpretations of, data. |
| **Regional Analysis** |  |  |
| Geographers analyze complex issues and relationships with a distinctively spatial perspective. | Describe different ways that geographers define regions. | * Regions are defined on the basis of one or more unifying characteristics or on patterns of activity. * Types of regions include formal, functional, and perceptual/vernacular. * Regional boundaries are transitional and often contested and overlapping. * Geographers apply regional analysis at local, national, and global scales. |

**Unit 2: Population and Migration Patterns and Processes**

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| **Enduring Understanding** | **Learning Objective** | **Essential Knowledge** |
| **Population Distribution** |  |  |
| Understanding where and how people live is essential to understanding global cultural, political, and economic patterns | Identify the factors that influence the distribution of human populations at different scales | * Physical factors (e.g., climate, landforms, water bodies) and human factors (e.g., culture, economics, history, politics) influence the distribution of population. * Factors that illustrate patterns of population distribution vary according to the scale of analysis. |
|  | Define methods geographers use to calculate population density. | * The three methods for calculating population density are arithmetic, physiological, and agricultural. |
|  | Explain the differences between and the impact of methods used to calculate population density. | * The method used to calculate population density reveals different information about the pressure the population exerts on the land. |
| **Consequences of Population Distribution** |  |  |
| Understanding where and how people live is essential to understanding global cultural, political, and economic patterns. | Explain how population distribution and density affect society and the environment. | * Population distribution and density affect political, economic, and social processes, including the provision of services such as medical care. * Population distribution and density affect the environment and natural resources; this is known as carrying capacity |
| **Population Composition** |  |  |
| Understanding where and how people live is essential to understanding global cultural, political, and economic patterns. | Describe elements of population composition used by geographers. | * Patterns of age structure and sex ratio vary across different regions and may be mapped and analyzed at different scales. |
|  | Explain ways that geographers depict and analyze population composition. | * Population pyramids are used to assess population growth and decline and to predict markets for goods and services. |
| **Population Dynamics** |  |  |
| Changes in population are due to mortality, fertility, and migration, which are influenced by the interplay of environmental, economic, cultural, and political factors. | Explain factors that account for contemporary and historical trends in population growth and decline. | * Demographic factors that determine a population’s growth and decline are fertility, mortality, and migration. * Geographers use the rate of natural increase and population-doubling time to explain population growth and decline. * Social, cultural, political, and economic factors influence fertility, mortality, and migration rates. |
| **The Demographic Transition Model** |  |  |
| Changes in population are due to mortality, fertility, and migration, which are influenced by the interplay of environmental, economic, cultural, and political factors. | Explain theories of population growth and decline. | * The demographic transition model can be used to explain population change over time. * The epidemiological transition explains causes of changing death rates. |
| **Malthusian Theory** |  |  |
| Changes in population are due to mortality, fertility, and migration, which are influenced by the interplay of environmental, economic, cultural, and political factors. | Explain theories of population growth and decline. | * Malthusian theory and its critiques are used to analyze population change and its consequences |
| **Population Policies** |  |  |
| Changes in population have long- and short-term effects on a place’s economy, culture, and politics. | Explain the intent and effects of various population and immigration policies on population size and composition. | * Types of population policies include those that promote or discourage population growth, such as pronatalist, antinatalist, and immigration policies. |
| **Women and Demographic Change** |  |  |
| Changes in population have long- and short-term effects on a place’s economy, culture, and politics. | Explain how the changing role of females has demographic consequences in different parts of the world. | * Changing social values and access to education, employment, health care, and contraception have reduced fertility rates in most parts of the world. * Changing social, economic, and political roles for females have influenced patterns of fertility, mortality, and migration, as illustrated by Ravenstein’s laws of migration. |
| **Aging Populations** |  |  |
| Changes in population have long- and short-term effects on a place’s economy, culture, and politics. | Explain the causes and consequences of an aging population. | * Population aging is determined by birth and death rates and life expectancy. * An aging population has political, social, and economic consequences, including the dependency ratio. |
| **Causes of Migration** |  |  |
| Changes in population are due to mortality, fertility, and migration, which are influenced by the interplay of environmental, economic, cultural, and political factors. | Explain how different causal factors encourage migration. | * Migration is commonly divided into push factors and pull factors. * Push/pull factors and intervening opportunities/obstacles can be cultural, demographic, economic, environmental, or political. |
| **Forced and Voluntary Migration** |  |  |
| Changes in population are due to mortality, fertility, and migration, which are influenced by the interplay of environmental, economic, cultural, and political factors. | Describe types of forced and voluntary migration. | * Forced migrations include slavery and events that produce refugees, internally displaced persons, and asylum seekers. * Types of voluntary migrations include transnational, transhumance, internal, chain, step, guest worker, and rural-to-urban. |
| **Effects of Migration** |  |  |
| Changes in population are due to mortality, fertility, and migration, which are influenced by the interplay of environmental, economic, cultural, and political factors. | Explain historical and contemporary geographic effects of migration. | * Migration has political, economic, and cultural effects. |

**Unit 3: Cultural Patterns and Processes Course Articulation**

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| **Enduring Understanding** | **Learning Objective** | **Essential Knowledge** |
| **Introduction to culture** |  |  |
| Cultural practices vary across geographical locations because of physical geography and available resources. | Define the characteristics, attitudes, and traits that influence geographers when they study culture. | * Culture comprises the shared practices, technologies, attitudes, and behaviors transmitted by a society * Cultural traits include such things as food preferences, architecture, and land use. * Cultural relativism and ethnocentrism are different attitudes toward cultural difference. |
| **Cultural Landscape** |  |  |
| Cultural practices vary across geographical locations because of physical geography and available resources. | Describe the characteristics of cultural landscapes. | * Cultural landscapes are combinations of physical features, agricultural and industrial practices, religious and linguistic characteristics, evidence of sequent occupancy, and other expressions of culture including traditional and postmodern architecture and land-use patterns. |
|  | Explain how landscape features and land and resource use reflect cultural beliefs and identities. | * Attitudes toward ethnicity and gender, including the role of women in the workforce; ethnic neighborhoods; and indigenous communities and lands help shape the use of space in a given society |
| **Cultural Patterns** |  |  |
| Cultural practices vary across geographical locations because of physical geography and available resources. | Explain patterns and landscapes of language, religion, ethnicity, and gender. | * Regional patterns of language, religion, and ethnicity contribute to a sense of place, enhance placemaking, and shape the global cultural landscape. * Language, ethnicity, and religion are factors in creating centripetal and centrifugal forces. |
| **Types of Diffusion** |  |  |
| The interaction of people contributes to the spread of cultural practices | Define the types of diffusion. | * Relocation and expansion—including contagious, hierarchical, and stimulus expansion—are types of diffusion. |
| **Historical Causes of Diffusion** |  |  |
| Cultural ideas, practices, and innovations change or disappear over time. | Explain how historical processes impact current cultural patterns. | * Interactions between and among cultural traits and larger global forces can lead to new forms of cultural expression; for example, creolization and lingua franca. * Colonialism, imperialism, and trade helped to shape patterns and practices of culture. |
| **Contemporary Causes of Diffusion** |  |  |
| Cultural ideas, practices, and innovations change or disappear over time. | Explain how historical processes impact current cultural patterns. | * Cultural ideas and practices are socially constructed and change through both small-scale and large-scale processes such as urbanization and globalization. These processes come to bear on culture through media, technological change, politics, economics, and social relationships. * Communication technologies, such as the internet and the time-space convergence, are reshaping and accelerating interactions among people; changing cultural practices, as in the increasing use of English and the loss of indigenous languages; and creating cultural convergence and divergence. |
| **Diffusion of Religion and Language** |  |  |
| The interaction of people contributes to the spread of cultural practices. | Explain what factors lead to the diffusion of universalizing and ethnic religions. | * Language families, languages, dialects, world religions, ethnic cultures, and gender roles diffuse from cultural hearths. * Diffusion of language families, including Indo-European, and religious patterns and distributions can be visually represented on maps, in charts and toponyms, and in other representations. * Religions have distinct places of origin from which they diffused to other locations through different processes. Practices and belief systems impacted how widespread the religion diffused. * Universalizing religions, including Christianity, Islam, Buddhism, and Sikhism, are spread through expansion and relocation diffusion. * Ethnic religions, including Hinduism and Judaism, are generally found near the hearth or spread through relocation diffusion |
| **Effects of Diffusion** |  |  |
| Cultural ideas, practices, and innovations change or disappear over time | Explain how the process of diffusion results in changes to the cultural landscape. | * Acculturation, assimilation, syncretism, and multiculturalism are effects of the diffusion of culture. |

**Unit 4: Political Patterns and Processes Course Articulation**

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| **Enduring Understanding** | **Learning Objective** | **Essential Knowledge** |
| **Introduction to Political Geography** |  |  |
| The political organization of space results from historical and current processes, events, and ideas. | For world political maps:   1. Define the different types of political entities. 2. Identify a contemporary example of political entities | * Independent states are the primary building blocks of the world political map. * Types of political entities include nations, nation-states, stateless nations, multinational states, multistate nations, and autonomous and semi-autonomous regions, such as American Indian reservations. |
| **Political Processes** |  |  |
| The political organization of space results from historical and current processes, events, and ideas. | Explain the processes that have shaped contemporary political geography | * The concepts of sovereignty, nationstates, and self-determination shape the contemporary world. * Colonialism, imperialism, independence movements, and devolution along national lines have influenced contemporary political boundaries. |
| **Political Power and Territoriality** |  |  |
| The political organization of space results from historical and current processes, events, and ideas. | Describe the concepts of political power and territoriality as used by geographers. | * Political power is expressed geographically as control over people, land, and resources, as illustrated by neocolonialism, shatterbelts, and choke points. * Territoriality is the connection of people, their culture, and their economic systems to the land. |
| **Defining Political Boundaries** |  |  |
| Political boundaries and divisions of governance, between states and within them, reflect balances of power that have been negotiated or imposed. | Define types of political boundaries used by geographers. | * Types of political boundaries include relic, superimposed, subsequent, antecedent, geometric, and consequent boundaries. |
| **The Function of Political Boundaries** |  |  |
| Political boundaries and divisions of governance, between states and within them, reflect balances of power that have been negotiated or imposed. | Explain the nature and function of international and internal boundaries. | * Boundaries are defined, delimited, demarcated, and administered to establish limits of sovereignty, but they are often contested. * Political boundaries often coincide with cultural, national, or economic divisions. However, some boundaries are created by demilitarized zones or policy, such as the Berlin Conference. * Land and maritime boundaries and international agreements can influence national or regional identity and encourage or discourage international or internal interactions and disputes over resources. * The United Nations Convention on the Law of the Sea defines the rights and responsibilities of nations in the use of international waters, established territorial seas, and exclusive economic zones. |
| **Internal Boundaries** |  |  |
| Political boundaries and divisions of governance, between states and within them, reflect balances of power that have been negotiated or imposed. | Explain the nature and function of international and internal boundaries. | * Voting districts, redistricting, and gerrymandering affect election results at various scales. |
| **Forms of Governance** |  |  |
| Political boundaries and divisions of governance, between states and within them, reflect balances of power that have been negotiated or imposed. | Define federal and unitary states. | * Forms of governance include unitary states and federal states. |
|  | Explain how federal and unitary states affect spatial organization. | * Unitary states tend to have a more top-down, centralized form of governance, while federal states have more locally based, dispersed power centers. |
| **Defining Devolutionary Factors** |  |  |
| Political, economic, cultural, or technological changes can challenge state sovereignty | Define factors that lead to the devolution of states. | * Factors that can lead to the devolution of states include the division of groups by physical geography, ethnic separatism, ethnic cleansing, terrorism, economic and social problems, and irredentism. |
| **Challenges to Sovereignty** |  |  |
| Political, economic, cultural, or technological changes can challenge state sovereignty. | Explain how political, economic, cultural, and technological changes challenge state sovereignty | * Devolution occurs when states fragment into autonomous regions; subnational political-territorial units, such as those within Spain, Belgium, Canada, and Nigeria; or when states disintegrate, as happened in Eritrea, South Sudan, East Timor, and states that were part of the former Soviet Union. * Advances in communication technology have facilitated devolution, supranationalism, and democratization. * Global efforts to address transnational and environmental challenges and to create economies of scale, trade agreements, and military alliances help to further supranationalism. * Supranational organizations—including the United Nations (UN), North Atlantic Treaty Organization (NATO), European Union (EU), Association of Southeast Asian Nations (ASEAN), Arctic Council, and African Union— can challenge state sovereignty by limiting the economic or political actions of member states. |
| **Consequences of Centrifugal and Centripetal forces** |  |  |
| Political, economic, cultural, or technological changes can challenge state sovereignty. | Explain how the concepts of centrifugal and centripetal forces apply at the state scale. | * Centrifugal forces may lead to failed states, uneven development, stateless nations, and ethnic nationalist movements. * Centripetal forces can lead to ethnonationalism, more equitable infrastructure development, and increased cultural cohesion. |

**Unit 5: Agriculture and Rural Land-Use Patterns and Processes Course Articulation**

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| **Enduring Understanding** | **Learning Objective** | **Essential Knowledge** |
| **Introduction to Agriculture** |  |  |
| Availability of resources and cultural practices influence agricultural practices and land-use patterns. | Explain the connection between physical geography and agricultural practices | * Agricultural practices are influenced by the physical environment and climatic conditions, such as the Mediterranean climate and tropical climates. * Intensive farming practices include market gardening, plantation agriculture, and mixed crop/livestock systems. * Extensive farming practices include shifting cultivation, nomadic herding, and ranching. |
| **Settlement Patterns and Survey Methods** |  |  |
| Availability of resources and cultural practices influence agricultural practices and land-use patterns. | Identify different rural settlement patterns and methods of surveying rural settlements. | * Specific agricultural practices shape different rural land-use patterns. * Rural settlement patterns are classified as clustered, dispersed, or linear. * Rural survey methods include metes and bounds, township and range, and long lot. |
| **Agriculture Origins and Diffusion** |  |  |
| Agriculture has changed over time because of cultural diffusion and advances in technology. | Identify major centers of domestication of plants and animals. | * Early hearths of domestication of plants and animals arose in the Fertile Crescent and several other regions of the world, including the Indus River Valley, Southeast Asia, and Central America. |
|  | Explain how plants and animals diffused globally | * Patterns of diffusion, such as the Columbian Exchange and the agricultural revolutions, resulted in the global spread of various plants and animals. |
| **The Second Agricultural Revolution** |  |  |
| Agriculture has changed over time because of cultural diffusion and advances in technology. | Explain the advances and impacts of the second agricultural revolution. | * New technology and increased food production in the second agricultural revolution led to better diets, longer life expectancies, and more people available for work in factories. |
| **The Green Revolution** |  |  |
| Agriculture has changed over time because of cultural diffusion and advances in technology. | Explain the consequences of the Green Revolution on food supply and the environment in the developing world. | * The Green Revolution was characterized in agriculture by the use of high-yield seeds, increased use of chemicals, and mechanized farming. * The Green Revolution had positive and negative consequences for both human populations and the environment |
| **Agricultural Production Regions** |  |  |
| Availability of resources and cultural practices influence agricultural practices and land-use patterns. | Explain how economic forces influence agricultural practices | * Agricultural production regions are defined by the extent to which they reflect subsistence or commercial practices (monocropping or monoculture). * Intensive and extensive farming practices are determined in part by land costs (bid-rent theory). |
| **Spatial Organization of Agriculture** |  |  |
| Availability of resources and cultural practices influence agricultural practices and land-use patterns. | Explain how economic forces influence agricultural practices | * Large-scale commercial agricultural operations are replacing small family farms. * Complex commodity chains link production and consumption of agricultural products. * Technology has increased economies of scale in the agricultural sector and the carrying capacity of the land. |
| **Von Thünen Model** |  |  |
| Availability of resources and cultural practices influence agricultural practices and land-use patterns. | Describe how the von Thünen model is used to explain patterns of agricultural production at various scales. | * Von Thünen’s model helps to explain rural land use by emphasizing the importance of transportation costs associated with distance from the market; however, regions of specialty farming do not always conform to von Thünen’s concentric rings. |
| **The Global System of Agriculture** |  |  |
| Availability of resources and cultural practices influence agricultural practices and land use patterns. | Explain the interdependence among regions of agricultural production and consumption. | * Food and other agricultural products are part of a global supply chain. * Some countries have become highly dependent on one or more export commodities. * The main elements of global food distribution networks are affected by political relationships, infrastructure, and patterns of world trade. |
| **Consequences of Agricultural Practices** |  |  |
| Agricultural production and consumption patterns vary in different locations, presenting different environmental, social, economic, and cultural opportunities and challenges. | Explain how agricultural practices have environmental and societal consequences. | * Environmental effects of agricultural land use include pollution, land cover change, desertification, soil salinization, and conservation efforts. * Agricultural practices—including slash and burn, terraces, irrigation, deforestation, draining wetlands, shifting cultivation, and pastoral nomadism—alter the landscape. * Societal effects of agricultural practices include changing diets, role of women in agricultural production, and economic purpose. |
| **Challenges of Contemporary Agriculture** |  |  |
| Agricultural production and consumption patterns vary in different locations, presenting different environmental, social, economic, and cultural opportunities and challenges. | Explain challenges and debates related to the changing nature of contemporary agriculture and food-production practices. | * Agricultural innovations such as biotechnology, genetically modified organisms, and aquaculture have been accompanied by debates over sustainability, soil and water usage, reductions in biodiversity, and extensive fertilizer and pesticide use. * Patterns of food production and consumption are influenced by movements relating to individual food choice, such as urban farming, community-supported agriculture (CSA), organic farming, value-added specialty crops, fair trade, local-food movements, and dietary shifts. * Challenges of feeding a global population include lack of food access, as in cases of food insecurity and food deserts; problems with distribution systems; adverse weather; and land use lost to suburbanization. * The location of food-processing facilities and markets, economies of scale, distribution systems, and government policies all have economic effects on food-production practices. |
| **Women in Agriculture** |  |  |
| Agricultural production and consumption patterns vary in different locations, presenting different environmental, social, economic, and cultural opportunities and challenges. | Explain geographic variations in female roles in food production and consumption. | * The role of females in food production, distribution, and consumption varies in many places depending on the type of production involved. |

**Unit 6: Cities and Urban Land-Use Patterns and Processes Course Articulation**

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| **Enduring Understanding** | **Learning Objective** | **Essential Knowledge** |
| **The Origin and Influences of Urbanization** |  |  |
| The presence and growth of cities vary across geographical locations because of physical geography and resources. | Explain the processes that initiate and drive urbanization and suburbanization. | * Site and situation influence the origin, function, and growth of cities. * Changes in transportation and communication, population growth, migration, economic development, and government policies influence urbanization. |
| **Cities Across the World** |  |  |
| The presence and growth of cities vary across geographical locations because of physical geography and resources. | Explain the processes that initiate and drive urbanization and suburbanization. | * Megacities and metacities are distinct spatial outcomes of urbanization increasingly located in countries of the periphery and semiperiphery. * Processes of suburbanization, sprawl, and decentralization have created new land-use forms—including edge cities, exurbs, and boomburbs—and new challenges. |
| **Cities and Globalization** |  |  |
| The presence and growth of cities vary across geographical locations because of physical geography and resources. | Explain how cities embody processes of globalization. | * World cities function at the top of the world’s urban hierarchy and drive globalization. * Cities are connected globally by networks and linkages and mediate global processes. |
| **The size and distribution of cities** |  |  |
| The presence and growth of cities vary across geographical locations because of physical geography and resources. | Identify the different urban concepts such as hierarchy, interdependence, relative size, and spacing that are useful for explaining the distribution, size, and interaction of cities. | * Principles that are useful for explaining the distribution and size of cities include rank-size rule, the primate city, gravity, and Christaller’s central place theory |
| **The Internal Structure of Cities** |  |  |
| The presence and growth of cities vary across geographical locations because of physical geography and resources. | Explain the internal structure of cities using various models and theories. | * Models and theories that are useful for explaining internal structures of cities include the Burgess concentric-zone model, the Hoyt sector model, the Harris and Ullman multiple-nuclei model, the galactic city model, bid-rent theory, and urban models drawn from Latin America, Southeast Asia, and Africa. |
| **Density and Land Use** |  |  |
| The attitudes and values of a population, as well as the balance of power within that population, are reflected in the built landscape. | Explain how low-, medium-, and high-density housing characteristics represent different patterns of residential land use. | * Residential buildings and patterns of land use reflect and shape the city’s culture, technological capabilities, cycles of development, and infilling. |
| **Infrastructure** |  |  |
| The attitudes and values of a population, as well as the balance of power within that population, are reflected in the built landscape. | Explain how a city’s infrastructure relates to local politics, society, and the environment. | * The location and quality of a city’s infrastructure directly affects its spatial patterns of economic and social development |
| **Urban Sustainability** |  |  |
| The attitudes and values of a population, as well as the balance of power within that population, are reflected in the built landscape. | Identify the different urban design initiatives and practices. | * Sustainable design initiatives and zoning practices include mixed land use, walkability, transportation-oriented development, and smart-growth policies, including New Urbanism, greenbelts, and slow-growth cities. |
|  | Explain the effects of different urban design initiatives and practices | * Praise for urban design initiatives includes the reduction of sprawl, improved walkability and transportation, improved and diverse housing options, improved livability and promotion of sustainable options. Criticisms include increased housing costs, possible de facto segregation, and the potential loss of historical or place character |
| **Urban Data** |  |  |
| The attitudes and values of a population, as well as the balance of power within that population, are reflected in the built landscape. | Explain how qualitative and quantitative data are used to show the causes and effects of geographic change within urban areas | * Quantitative data from census and survey data provide information about changes in population composition and size in urban areas. * Qualitative data from field studies and narratives provide information about individual attitudes toward urban change. |
| **Challenges of Urban Changes** |  |  |
| Urban areas face unique economic, political, cultural, and environmental challenges. | Explain causes and effects of geographic change within urban areas. | * As urban populations move within a city, economic and social challenges result, including: issues related to housing and housing discrimination such as redlining, blockbusting, and affordability; access to services; rising crime; environmental injustice; and the growth of disamenity zones or zones of abandonment. * Squatter settlements and conflicts over land tenure within large cities have increased. * Responses to economic and social challenges in urban areas can include inclusionary zoning and local food movements. * Urban renewal and gentrification have both positive and negative consequences. * Functional and geographic fragmentation of governments—the way government agencies and institutions are dispersed between state, county, city, and neighborhood levels—presents challenges in addressing urban issues. |
| **Challenges of Urban Sustainability** |  |  |
| Urban areas face unique economic, political, cultural, and environmental challenges. | Describe the effectiveness of different attempts to address urban sustainability challenges. | * Challenges to urban sustainability include suburban sprawl, sanitation, climate change, air and water quality, the large ecological footprint of cities, and energy use. * Responses to urban sustainability challenges can include regional planning efforts, remediation and redevelopment of brownfields, establishment of urban growth boundaries, and farmland protection policies. |

**Unit 7: Industrial And Economic Development Patterns and Processes Course Articulation**

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| **Enduring Understanding** | **Learning Objective** | **Essential Knowledge** |
| **The Industrial Revolution** |  |  |
| Industrialization, past and present, has facilitated improvements in standards of living, but it has also contributed to geographically uneven development. | Explain how the Industrial Revolution facilitated the growth and diffusion of industrialization. | * Industrialization began as a result of new technologies and was facilitated by the availability of natural resources. * As industrialization spread it caused food supplies to increase and populations to grow; it allowed workers to seek new industrial jobs in the cities and changed class structures. * Investors in industry sought out more raw materials and new markets, a factor that contributed to the rise of colonialism and imperialism. |
| **Economic Sectors** |  |  |
| Industrialization, past and present, has facilitated improvements in standards of living, but it has also contributed to geographically uneven development. | Explain the spatial patterns of industrial production and development. | * The different economic sectors—including primary, secondary, tertiary, quaternary, and quinary—are characterized by distinct development patterns. * Labor, transportation (including shipping containers), the break-of-bulk point, least cost theory, markets, and resources influence the location of manufacturing such as core, semi-periphery, and periphery locations. |
| **Measures of Development** |  |  |
| Industrialization, past and present, has facilitated improvements in standards of living, but it has also contributed to geographically uneven development. | Describe social and economic measures of development. | * Measures of social and economic development include Gross Domestic Product (GDP); Gross National Product (GNP); and Gross National Income (GNI) per capita; sectoral structure of an economy, both formal and informal; income distribution; fertility rates; infant mortality rates; access to health care; use of fossil fuels and renewable energy; and literacy rates. * Measures of gender inequality, such as the Gender Inequality Index (GII), include reproductive health, indices of empowerment, and labor-market participation. * The Human Development Index (HDI) is a composite measure used to show spatial variation among states in levels of development |
| **Women and Economic Development** |  |  |
| Industrialization, past and present, has facilitated improvements in standards of living, but it has also contributed to geographically uneven development. | Explain how and to what extent changes in economic development have contributed to gender parity. | * The roles of women change as countries develop economically. * Although there are more women in the workforce, they do not have equity in wages or employment opportunities. * Microloans have provided opportunities for women to create small local businesses, which have improved standards of living. |
| **Theories of Development** |  |  |
| Industrialization, past and present, has facilitated improvements in standards of living, but it has also contributed to geographically uneven development. | Explain different theories of economic and social development. | * Different theories, such as Rostow’s Stages of Economic Growth, Wallerstein’s World System Theory, dependency theory, and commodity dependence, help explain spatial variations in development. |
| **Trade and the World Economy** |  |  |
| Economic and social development happen at different times and rates in different places. | Explain causes and geographic consequences of recent economic changes such as the increase in international trade, deindustrialization, and growing interdependence in the world economy | * Complementarity and comparative advantage establish the basis for trade. * Neoliberal policies, including free trade agreements, have created new organizations, spatial connections, and trade relationships, such as the EU, World Trade Organization (WTO), Mercosur, and OPEC, that foster greater globalization. * Government initiatives at all scales may affect economic development, including tariffs * Global financial crises (e.g., debt crises), international lending agencies (e.g., the International Monetary Fund), and strategies of development (e.g., microlending) demonstrate how different economies have become more closely connected, even interdependent. |
| **Changes as a Result of the World Economy** |  |  |
| Economic and social development happen at different times and rates in different places. | Explain causes and geographic consequences of recent economic changes such as the increase in international trade, deindustrialization, and growing interdependence in the world economy | * Outsourcing and economic restructuring have led to a decline in jobs in core regions and an increase in jobs in newly industrialized countries. * In countries outside the core, the growth of industry has resulted in the creation of new manufacturing zones—including special economic zones, free-trade zones, and export-processing zones—and the emergence of an international division of labor in which developing countries have lower-paying jobs * The contemporary economic landscape has been transformed by post-Fordist methods of production, multiplier effects, economies of scale, agglomeration, just-in-time delivery, the emergence of service sectors, high technology industries, and growth poles. |
| **Sustainable Development** |  |  |
| Environmental problems stemming from industrialization may be remedied through sustainable development strategies. | Explain how sustainability principles relate to and impact industrialization and spatial development. | * Sustainable development policies attempt to remedy problems stemming from natural resource depletion, mass consumption, the effects of pollution, and the impact of climate change. * Ecotourism is tourism based in natural environments—often environments that are threatened by looming industrialization or development—that frequently helps to protect the environment in question while also providing jobs for the local population. * The UN’s Sustainable Development Goals help measure progress in development, such as small-scale finance and public transportation projects. |