**Hunter College - CUNY**
**Dept. of Geography & Environmental Science**
**GEOG 101 Lecture Presentation Summary**
**Spring 2020**

***NOTE**: In the absence of face-to-face lecturing and explanation of the material presented in the lecture slides, I will summarize the content of each lecture presentation stressing the concepts and interrelationships that are essential to an introductory geography course.*

*If, after viewing the lecture presentation, the imbedded short videos and hot links to articles, and after reading this summary, you have any questions, would like to contribute a comment or two, need clarification by other examples or would like additional information on the topic, please do not hesitate to email me at agrande@hunter.cuny.edu.*

## LECTURE 22: Economic Geography 1 and 2

- **There are three lectures remaining in this semester: May 5, May 8 and May 12.** The final exam is May 19.

- **Slide 3** lists the major topics yet to be covered. This lecture looks at the principles of **Economic Geography.** Material is found in textbook chapters 9 and 12. Normally this would be done in 2 lectures, but I am condensing this topic and the last topic, **Urban Geography**, into two 1½ lecture presentations each because of the shortened semester. The slides for each topic will be a continuous series without a period break. **Political Geography**, as scheduled from the beginning of the semester, will be covered by readings and Extra Credit III atlas exercise.

- **Slides 4-5: Location! Location! Location!** This is the call of economic geography where success, profitability, transportation and the value of real estate is studied. We look at the spatial aspects of economic activity along with an area's development. As people move away from a subsistence form of life where they exist with bare necessities through self-sufficiency. Location of manufacturing, transportation and communication, and the service trades is an important part of development. *Recall the Demographic Transition Model from Population Geography.*

- **Slide 6 defines economic geography**. Geographic principles and data gathering tools are applied to all economic functions, including supplying disaster relief and military operations: **the study of the spatial variation of activities related to the production, exchange and consumption of goods and services leading to the accumulation of wealth.** This can be mapped and modeled.

- **Slide 7:** This diagram is a simple way of dividing economic activity into sectors based on what is being done. **Primary sector** takes from nature. **Secondary sector** processes what is taken from nature and creates something from it (as a manufactured product). The **tertiary sector** involves selling and service of the products generated from other sectors. The **quaternary sector** (along with the **quinary** activities) does data collection, management and executive decision making – very far from the primary activities, but at the same time controlling primary activities, as mining and fishing through management and decisions. This diagram also fits into

the Demographic Transition Model by referring to the percent of labor involved in the sectors. As an area "develops", less people are involved in extraction (mining, lumbering, agriculture, etc.) and more are into the processing phase (creating/making products); as economic development increases, people move on and sell products to people and also act to service people's needs. *How many of us grow our own food, make your own clothing or fix your broken smartphone?*

- **Slide 8. Food and agriculture are the focus of Chapter 9.** *There is a lot of information here, but we will not go into great detail.* Acquiring food is the oldest human activity, starting with gathering, then hunting, then moving to domesticate plants and animals before engaging in purposeful farming of crops and raising of animals. The greater the amount and better the quality of an area's food supplies, the more people that area can support. *Recall the Population Geography discussions. Click on the link to review the FAO pages.*

- **Slide 9: Know the definitions of these terms.** *Subsistence agriculture* is very different from *commercial agriculture* even if surplus foodstuffs are sold or bartered. Commercial agriculture has taken on many forms but its unifying goal is always *economies of scale and making a profit*.

- **Slide 10 looks at the factors that determine agricultural methodologies and types of foodstuff produced.** As noted, it is a combination of an area's physical characteristics and human adaptation, culture and technological development These factors will be expanded upon in a general discussion later in the lecture. *This has led to the development local and regional cuisine and unique farming landscapes (human imprint) as mentioned in Cultural Geography.*

- **Slides 11-14:** Here we view the original locations (hearths) of many foods we take for granted, see agricultural land use differences (human imprint), agricultural categories and productivity of select products. No need to commit any of this to memory. Just know that variety exists and all products are not found in all parts of the world.

- **Slides 15-17 focus on changing productivity over time.** Malthus Theory is recalled and reiterates the role of played by technology (various agricultural revolutions) in supplying the world's people with food. Now there's a groundswell against genetically-modified crops and cloning.

- **Slides 18-20 focus on the types of food that provide people with their dietary needs** (remember nutrition slides in Population Geography). The top map shows chief energy sources (calories) and the bottom map shows leading protein sources for world regions. Slides 19-20 focus on fish as a food source and dietary supplement. Notice the important of freshwater fish in Asia. *BTW, going back to ocean currents, fish habitats depend on water temperature and salinity. Areas where waters mix have the greatest variety of species and coincide with the most productive fishing grounds. They have been the source of international conflict over the centuries.*

- **Slide 21: Globalization.** Here we define globalization from the economic, cultural and political lenses. We need to seriously consider the pros and cons that this brings with it. Do we really want the world to be "vanilla" and without variety?

- **Slides 22-26. Economic Development.** These slides look at economic development as an assessment of productivity, people's relationship (attitude) to the land, demographic phases and sustainability. The graph at the lower right of **Slide 22** compares the structure of the labor force with sectors of the economy. Notice the difference between the United Sates and Cambodia. **Slide 23** notes that the relationship to the land changes with increased development and there is a general movement away from working the land with increased development. **Slide 24** compares agricultural and manufacturing to the Demographic Transition Model.

- **Slides 25-26** look at quality issues, especially sustainability (using nature but not hurting nature) and human quality of life. The UN's **Human Development Index (HDI)** is a way to compare populations using standard criteria: life expectancy, literacy, education and income. It allocates countries into one of 4 tiers of human development.

- **Slides 27-37: The Seven Principles of Location Theory.**

- **Slide 27**: The principles listed help create economic landscapes and along with *Time-Distance* (covered later in Slide 41), form the core of economic geography.
    1. **Distance** (how near or far)
    2. **Accessibility** (how easy is it to get to)
    3. **Spatial interaction and movement** (complementary assistance and support)
    4. **Diffusion** (spread)
    5. **Transportation system and networks** (connectivity)
    6. **Comparative** advantage (best suited)
    7. **Agglomeration** (clustering)

- **Slides 28-29: Distance.** This addresses the **concept of nearness**, the first of a series of interrelated ideas. There are 3 types of distance: *linear, time and perceptual* that were first defined at the beginning of the course. The *"Frictionless Zone"* is that area where travel is undertaken without second thought. The *"Critical Distance"* is a mental barrier or fiscal barrier that marks a location beyond which one has second thoughts about traveling beyond. Interaction decreases with distance beyond the critical point as shown in **Slide 29**. *How many times we do not cross a street to go to a store on the other side because it is too far, not convenient or out of the way or we don not to wait for the traffic light to change?*

- **Slide 30: Accessibility.** This addresses the **concept of ease to get to another location.** A place may be close by yet very difficult to get to if there are no direct routes or the route is difficult and slow. The two maps show (a) areas within 20 miles of a major transportation route (compare USA to Brazil) and (b) time it takes to travel between cities. Note that the travel-time scale goes from hours to days.

- **Slide 31: Spatial Interaction and Movement.** This addresses the **concept of complementarity** or mutual help and support. The map compares where petroleum is extracted versus where it is needed. Therefore, the two areas are linked through need: one needs to sell to earn money; the other needs to buy to support its people and industries.

- **Slide 32: Diffusion.** This addresses the **concept of spread** or movement away **from the point of origin** to a new location**.** This addresses the ability and desire to move a product/concept/information from the place produced to where it is needed and used. It includes method of delivery and the amount of time required to deliver a product or service. The illustrations show "service areas". The US map shows estimated delivery time for purchased goods from a specialty store in St. Louis using Federal Express. The "Our Service Area" is part of an ad from an Amarillo repair shop showing how far (critical distance) it will send its trucks. The bottom map and photo illustrate EMS helicopter ambulance service coverage, showing the circled flight areas within which the EMS helicopters will travel to get a patient and bring the person back to a hospital; each helicopter-serviced hospital has its own coverage area. *If you live within the overlapping circles, you have a larger choice of service and probably a quicker ride to the hospital.*

- **Slides 33-35. Transportation System and Networks.** This addresses the **concept of connectivity.** Related to the previous concepts, this one looks specifically at the composition of a transportation system: **nodes** and **linkages**. Subway stations or bus stops are nodes; the train or bus route is the linkage. A network is composed of more than one route to go from Point A to Point B. *(You may have alternate ways to go from your home to Hunter.) The goal here is to have the most efficient way to move people, goods and services and to reduce cost and maximize speed.* **Slide 34** gives examples of transportation systems, some of which focus on a few areas (hubs) and spread out to other areas (via spokes); most activity is concentrated at the hubs. **Slide 35** explains the *FedEx* hub-and-spoke network to ensure next day delivery. *Amazon, UPS, USPS* and all major delivery services rely on this concept and use GPS linked GIS programs to accomplish it.

- **Slide 36: Comparative Advantage.** This addresses the **concept of best suited.** In theory an area should specialize in the production of goods and services that it can do best - efficiently and less costly – because of the theoretical pluses it has. Agriculture maps are a good example because crops need certain growing conditions. Lemons don't grow naturally in Alaska but there is an abundance of reindeer in Alaska that can be processed for meat.

- **Slide 37: Agglomeration.** This addresses the **concept of clustering** or concentration **for mutual benefit**. Historically, the original agglomeration was the farmers' market or market squares where people came together at one location to buy, sell and trade items. "Main Street" is an urban example of this. Shopping malls replaced Main Street as a gathering place for people. Cities have their districts: Theatre District, Museum Row, Coney Island amusement parks, Little Italy restaurants, car

dealerships on Northern Blvd, Queens. While it may seem illogical to locate near the competition, the flow of traffic actually increases sales. For industrial areas, agglomeration usually along a rail line or port facility, reduces transportation costs and speeds shipments and allows for easier compliance to local regulations.

- **Slides 38-40. Location! Location! Location!** For any activity, how do we find the best location for the circumstances involving least cost but maximum profit? **We use spatial analysis and spatial decision-making processes to accomplish this.**

- **Slide 39** lists the steps taken to review the circumstances and start the selection process. We have already defined many of these terms. Begin with existing conditions. Add transportation (movement). Recognize patterns and see if they mesh with what is needed. Look at the overriding economic factors, including anything that may cost or save money, as regulation compliance and taxes.

- **Slide 40** looks at **variables involved in decision-making** and the choices that may be available to those making the selection. What are the advantages? Look at the labor force and those you have to deal with. Are there similar activities nearby? What is your attitude on the environment and does it fit into local issues? How's the existing transportation and communication systems; is it reliable? (Especially true in developing areas). When time-distance is taken into consideration, is it worth the expense?

- **Slide 41: Time-Distance.** We finally reached this concept of "time travel"! **How do we evaluate how long will it take to go from A to B and what are the cost factors attached to it?** There are <u>seven time-distance variables</u> of which we need to be aware.
    1. **Percentage of time traveling** (need to keep operating expenses and down-time to a minimum)
    2. **Hierarchy of need** (willingness to travel)
    3. **Cost factor** (component factors)
    4. **Orientation factor** (where made or where used?)
    5. **Spatial margin of profitability** (how near or how far? adds to cost of the product or service)
    6. **Land use and land value** (along with modes of transportation and routes used)
    7. **Timely manner deliveries** (for both raw materials and finished products)

- **Slides 42-43: Spatial interaction as a percent of time traveling between places.** We all can map this out as we traveled around the city in pre-COVID19 times, moving from home to college to job to errands and back home. Most CUNY applications list Hunter College or Baruch College as first choices because they are easiest to get to from any where in the city including Staten Island. **Slide 43** tracks a person by using cell phone apps. Data includes date, time of day, duration of stay and frequency of a visit to a pinned site.

- **Slide 44: Spatial interaction by hierarchy of need.** People will travel a longer distance and spend more time traveling for specialized goods and services.

- **Slide 45: Spatial interaction by cost factor.** Using this simple diagram, we weigh the benefits of locating closer or further away from parts of the equation when the cost of raw materials, transportation, land, labor and taxes are thrown into the mix.

- **Slide 46: Spatial interaction by orientation.** Especially in manufacturing, there may be a great difference in locating by the raw material or the market. The lumber industry is located in the forest – untrimmed trees are too bulky to move. However, petroleum is refined close to wear it is used because it is cheaper to transport crude oil than a refined project – no cross-contamination.

- **Slide 47: Spatial interaction as a margin of profitability.** The spatial margin of profit varies with industry. In general, greater distance adds to the cost but the break-even points vary with circumstances.

- **Slides 48-50: Spatial interaction as a variable of land use and land value.** Ideally everything around a central point that is equally spaced should have the same land value as shown by concentric circles. Activities that require a lot of attention should be located closest to the provider and those that don't need attention, be located further away. Land values should vary accordingly. **However, once transportation is added (Slide 49), time-distance dynamics change and you can travel further from the central location in the same amount of time.** (Remember this for Urban Geography). So, the concentric circles turn into a starfish-shaped pattern. **Slide 50** adds one more variable to this: routing. Which way to go. Your GPS has two options: shortest distance or fastest time. We usually choose fastest time. When looking at the decision of speed vs. distance vs. cost, we need to be aware of the type of conveyance *(water is cheapest but slowest),* direction of movement *(Manhattan's one-way streets; airplanes flying into the wind)* and topography *(slope; curvy roads).*

- **Slides 51-52: Spatial interaction to make deliveries in a timely manner.** This is **"Just-in-Time" (JIT) delivery systems**, including guaranteed overnight and next day service. JIT means that you order and take delivery of items as you need it. There is limited on site storage and no large cash outlay. *Overnight*, *Next Day, and Two Day* are variations of this that guarantee delivery within a focused on-demand scenario. This is a very complex operation requiring strategic geographic placement of facilities and an excellent, dependable and varied (road/rail/air), transportation system that is focused on the correct areas. ***Location, Location, Location!***

- **Slide 53** lists some pros and cons of JIT.