Indiana University Northwest
COAS Chemistry, Biochemistry, Physics, Astronomy Department

COURSE SYLLABUS

C303, D513, T560 Environmental Chemistry Summer II 2018

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Course Office Location: MH 136
Office Hours: M, W, F 12-3, T 9-5
Class Type: Online Course

See the Schedule for session themes, readings, resources, and all assignment due dates.

Catalog Course Description:
(3 cr.) P: CHEM-C 106, CHEM-C 126, and CHEM-C 341 Investigation of the chemistry of water and air pollution; analytical procedures and techniques as applied to pollution problems, effects, and controls. This course will be offered as part of a post-baccalaureate environmental sciences certificate.

Course Goals and Outcomes:
By the end of the course, students will be able to:

1) Students will be able to discuss the major sources of anthropogenic and natural pollution and their remediation
2) Students will be able to discuss the natural chemistry of the stratosphere, troposphere, water, and soil
3) Students will be able to discuss the chemistry of major and alternate energy sources

Course Content:

1) Stratospheric Chemistry
    a. The Ozone Layer
        i. Regions of the Atmosphere
        ii. Environmental Concentration Units for Atmospheric Gases
        iii. Absorption of Light by Molecules
        iv. Filtering of Sunlight's UV Component by Atmospheric O_2 and O_3
        v. The Deleterious Effects of UV Light on Human Skin
        vi. Sunscreens

vii. Other Environmental Effects of UV Light
viii. Variation in Light's Energy with Wavelength
ix. Creation of Ozone in the Stratosphere
x. Destruction of Stratospheric Ozone
xi. Mechanism I of Ozone Destruction
xii. Catalytic Destruction of Ozone by Nitric Oxide and Hydroxyl
xiii. Destruction of Ozone without Atomic Oxygen: Mechanism II
xiv. Atomic Chlorine and Bromine as X Catalysts

b. The Ozone Holes
i. Dobson Units for Overhead Ozone
ii. History of the Annual Ozone Hole Above Antarctica
iii. Ozone Depletion in Temperate Areas
iv. The Activation of Catalytically Inactive Chlorine
v. Reactions that create the Ozone Hole
vi. The Size of the Antarctic Ozone Hole
vii. Stratospheric Ozone Destruction over the Arctic Region
viii. Increases in UV at Ground Level
ix. CFC Decomposition Increases Stratospheric Chlorine
x. Other Chlorine-Containing, Ozone-Depleting Substances
xi. The Replacement of CFC and Hydrocarbon Blowing Agents with Carbon Dioxide in Producing Foam Polystyrene
xii. CFC Replacements
xiii. Halons
xiv. Can Stratospheric Fluorine Destroy Ozone?
xv. International Agreements that Restrict ODSs
xvi. Harpin Technology-Eliciting Nature's Own Defenses Against Diseases

c. The Chemistry of Ground-Level Air Pollution
i. Concentration Units for Atmospheric Pollutants
ii. The Chemical Fate of Trace Gases in Air
iii. The Origin and Occurrence of Smog
iv. Ground-Level Ozone in Smog
v. An Episode of Photochemical Smog
vi. Nitrogen Oxide Production During Fuel Conbustion
vii. Government Goals for Reducing Ozone Concentrations
viii. Photochemical Smog Around the World
ix. Limiting VOC and NO to Reduce Ground-Level Ozone
x. Catalytic Converters for Gasoline Engines
xi. Air Quality Standards
xii. Catalytic Converters for Diesel Engines
xiii. Control of Nitric Oxide Emissions from Power Plants
xiv. Future Reductions in Smog-Producing Emissions
xv. A Nonvolatile, Reactive Coalescent for the Reduction of VOC's in Latex Plants

xvi. The Replacement of Organic Solvents with Supercritical and Liquid Carbon Dioxide? Development of Surfactants for This Compound
xvii. Using Ionic Liquids to Replace Organic Solvents; Cellulose, a Naturally Occurring Polymer Replacement for Petroleum-Derived Polymers
xviii. Sulfur Dioxide and Hydrogen Sulfide Sources and Abatement
xix. Clean Coal: Reducing Sulfur Dioxide Emissions from Power Plants
xx. Government Goals for Reducing Sulfur Dioxide Emissions
xxi. The Oxidation of Sulfur Dioxide in Suspended Water Droplets
xxii. Particulate Size
xxiii. Sources and Composition of Course Particles
xxiv. Sources and Composition of Fine Particles
xxv. The Neutralization of Acids in Air
xxvi. Smoke from Wood Stoves
xxvii. Smoke over Large Areas of Land
xxviii. The PM Indices

d. The Detailed Free-Radical Chemistry of the Atmosphere
    i. The Principles of Reactivity in the Troposphere
    ii. The Tropospheric Ozidation of Methane
    iii. Photochemical Smog: The Oxidation of Reactive Hydrocarbons
    iv. Photochemical Smog: The Fate of the Free Radicals
    v. Oxidation of Atmospheric SO_2: The Homogeneous Gas-Phase Mechanism
    vi. Processes Involving Loosely Bound Oxygen Atoms

e. The Environmental and Health Consequences of Polluted Air-Outdoors and Indoors
    i. Haze
    ii. Natural and Anthropogenic Acid Rain
    iii. The Acids and Acidity of Acid Rain
    iv. Neutralization of Acid Rain by Soil
    v. Neutralization of Acid Rain by Anthropogenic Actions
    vi. Environmental Effects of Acid Rain
    vii. Release of Aluminum in Water Bodies by Acid Rain
    viii. Effects of Air Pollution on Trees and Crops
    ix. The Health Effects of Soot-and Sulfur-Dioxide Smog
    x. The Health Effects of Photochemical Smog
    xi. Particulates as Health Risks
    xii. Formaldehyde
    xiii. Benzene and Other Gasoline-Related Hydrocarbons
    xiv. Nitrogen Dioxide
    xv. Carbon Monoxide
    xvi. Smoke from Cooking Stoves
    xvii. Environmental Tobacco Smoke
    xviii. Asbestos

2) Energy and Climate Change

a. The Greenhouse Effect
    i. The Earth's Energy Source
    ii. Historical Temperature Trends
    iii. Earth's Energy Emissions and the Greenhouse Effect
    iv. A Very Simple Model of the Greenhouse Effect
    v. Earth's Energy Balance
    vi. Types of Molecular Vibrations
    vii. Carbon Dioxide: Absorption of Infrared Light
    viii. Carbon Dioxide: Past Concentration and Emission Trends
    ix. Carbon Dioxide: Atmospheric Lifetime
    x. Carbon Dioxide: Inputs and Outputs
    xi. Water Vapor: Its Infrared Absorption and Role in Feedback
    xii. The Atmospheric Window
    xiii. Methane: Absorption and Sinks
    xiv. Methane: Emission sources
    xv. Methane: Concentration Trends and Possible Future Increases
    xvi. Nitrous Oxide
    xvii. CFCs and Their Replacements
    xviii. Sulfur Hexaflouride
    xix. Tropospheric Ozone
    xx. The Interaction of Light with Particles
    xxi. Aerosols and Global Warming
    xxii. Allocation of Warming to Natural and Anthropogenic Factors
    xxiii. Global Warming: Geography
    xxiv. Global Circulation Models
    xxv. Signs of Climate Change
    xxvi. SRM: Using Metal Reflectors in Space
    xxvii. SRM by Increasing Sulfate Aerosols in the Stratosphere
    xxviii. Precipitation and Stratospheric Ozone in a Geoengineered World
    xxix. Geoengineering by Ground-Level Systems
    xxx. SRM Schemes Summary
b. Energy Use, Fossil Fuels, CO_2 Emissions, and Global Climate Change
    i. Global Energy Usage Trends and Relationships
    ii. The Determinants of a Country's Energy Use
    iii. Energy Sources
    iv. Coal
    v. Natural Gas
    vi. Natural Gas and Propane (LPG) as Fuels
    vii. Petroleum-Composition
    viii. Petroleum-Supply
    ix. The Alberta Oil Sands
    x. Petroleum-Gasoline

xi. Polylactic Acid-The Production of Biodegradable Polymers from Renewable Resources? Reducing the Need for Petroleum and the Impact on the Environment
xii. Reversible Capture of CO_2
xiii. Oxycombustion
xiv. Other Concentrates Sources of Carbon Dioxide
xv. The Physical States of CO_2
xvi. Direct Deep-Ocean Disposal of CO_2
xvii. Disposal of Neutralized CO_2
xviii. Deep Underground Storage of CO_2
xix. Removing CO_2 from the Atmosphere
xx. Reducing CO_2 Emissions by Improving Energy Efficiency
xxi. Reducing Methane Emissions
xxii. Past Growth in CO_2 Emissions
xxiii. Carbon Intensity
xxiv. Per Capita Carbon Dioxide Emissions
xxv. Patterns of Growth in CO_2 Concentrations
xxvi. IPCC Scenarios for CO_2 Emissions and Concentrations
xxvii. Predictions for Climate Change by 2100
xxviii. Predictions Concerning Sea Levels
xxix. Climate Predictions for Specific Regions
xxx. Predicted Effects of Climate Change on Human Health
xxxi. International Agreements on Greenhouse Gas Emissions

c. Biofuels and Other Alternative Fuels
i. Biofuels: The Major Issues
ii. Burning Biomass Itself
iii. Ethanol as a Fuel
iv. Air Pollution from Ethanol Combustion
v. Bioethanol Production
vi. Energy and CO_2 Balances in Bioethanol Production
vii. Bioethanol from Cellulose
viii. Biobutanol and Other Liquid Fuels
ix. Plant Oils as Vehicular Fuels
x. Biodiesel Fuel: Its Constituents
xi. The Conversion of Plant Material to Biodiesel
xii. Use of Biodiesel in Motor Vehicles
xiii. Greenhouse Gas and Air Pollution Emissions from Biodiesel
xiv. Algae as the Raw Material for Biodiesel
xv. Bio-based Liquid Fuels and Chemicals
xvi. Recycling Carbon Dioxide-A feedstock for the Production of Chemicals and Liquid Fuels
xvii. Pyrolytic Production of Bio-oil
xviii. Synthesis Gas
xix. Methanol Production from Synthesis Gas

xx. Methanol as an Alternative Fuel
xxi. Ethers as Fuel Additives
xxii. Producing Hydrogen from Fossil Fuels
xxiii. Producing Hydrogen by Electrolysis
xxiv. Hydrogen from Water: Thermochemical Cycles
xxv. Storing Hydrogen: As A Liquid or Compressed Gas
xxvi. Metal Alloys and Graphite
xxvii. Storing Hydrogen as a Compound
xxviii. Combusting Hydrogen
xxix. Generating Electricity by Powering Fuel Cells with Hydrogen
xxx. Obtaining Fuel-Cell Hydrogen from Liquid Fuels
xxxi. Fuel Cells for Power Plants
xxxii. Other Uses for Fuel Cells
xxxiii. Electric Cars Powered by Batteries

d. Renewable Energy Technologies: Hydroelectric, Wind, Solar, Geothermal, and Marine Energy and Theil Storage
    i. Hydroelectric Power: Potential and Usage
    ii. Environmental Problems
    iii. Wind Energy
    iv. Large-Scale Wind Power
    v. Wind Speed and Windmill Size
    vi. Potential Wind-Energy Sites
    vii. Practical Considerations
    viii. Environmental Issues
    ix. Geothermal Energy
    x. Production of Electricity
    xi. Space Heating and Hot Water Applications
    xii. Environmental Aspects
    xiii. Low-Temperature Solar Energy
    xiv. Concentrated Solar Thermal Power
    xv. Thermochemical Applications of Concentrated Solar Energy
    xvi. Limitations on the Conversion of Energy: The Second Law of Thermodynamics
    xvii. Solar (PV) Cells
    xviii. Dye-Sensitized Solar Cells
    xix. Disadvantages of Solar Cells
    xx. Advantages of Solar Cells
    xxi. Conclusions about Renewable Energy
    xxii. Storing Electricity in Batteries
    xxiii. Other Methods of Storing Electrical Energy
e. Radioactivity, Radon, and Nuclear Energy
    i. The Nature of Radioactivity
    ii. The Health Effects of Ionizing Radiation
    iii. Quantifying the Amount of Radiation Energy Absorbed

iv. Radioactive Nucleus Decay
v. Radon from the Uranium-238 Decay Sequence
vi. Radiation Dose Scales
vii. Radiation from the Daughter of Radon
viii. Evaluating the Health Danger from Indoor Radon
ix. The Health Effects of Very Low-Levels of Radiation
x. Fission Power Reactors
xi. Actinide Products of Fission
xii. Radioactivity from Fission Products
xiii. Radioactivity in Spent Fuel Rods
xiv. Uranium Ore
xv. Deuterium and Tritium and Heavy Water Reactors
xvi. Depleted Uranium
xvii. Dirty Bombs
xviii. Plutonium and the Processing of Nuclear Fuel Rods
xix. Breeder Reactors
xx. Disposing of Plutonium
xxi. Nuclear Reactor Waste Geologic Storage
xxii. The Catastrophe at Chernobyl
xxiii. The Disaster at the Fukushima Reactors in Japan
xxiv. The Accident at Three Mile Island
xxv. Fusion Reactors
xxvi. The Energy Released in Fusion and Fission

3) Water Chemistry and Water Pollution
   a. The Chemistry of Natural Waters
      i. The Global Supply and Use of Water
      ii. Aspects and Concentration Units of Water Chemistry
      iii. The Solubility of Gases and VOCs in Water
      iv. Dissolved Oxygen
      v. Oxygen Demand: Biological
      vi. Oxygen Demand: Chemical
      vii. Enzymatic Preparation of Cotton Textiles
      viii. Decomposition of Organic Matter in Water
      ix. Sulfur Compounds in Natural Waters
      x. Acid Mine Drainage
      xi. The pE Scale
      xii. pE-pH Diagrams
      xiii. Nitrogen Compounds in Natural Waters
      xiv. Carbon Dioxide in Water
      xv. Water in Equilibrium with solid Calcium Carbonate: First Approximation
      xvi. Water in Equilibrium with solid Calcium Carbonate: Second Approximation
      xvii. Water in Equilibrium with Both $CaCO_3$ and Atmospheric CO_2

xviii. The Abundant Ions in Fresh Water
xix. Fluoride Ion in Water
xx. Seawater
xxi. Alkalinity Indices for Natural Waters

b. The Pollution and Purification of Water
i. Aeriation of Water
ii. Removal of Calcium and Magnesium
iii. Disinfection to Prevent Illness
iv. Filtering of Water
v. Removal of Colloidal Particles by Precipitation
vi. Disinfection of water by Membrane Technology
vii. Reverse Osmosis
viii. Disinfection by Ultraviolet Irradiation
ix. Disinfection by Chemical Methods: Ozone and Chlorine Dioxide
x. Disinfection by Chlorine: Background
xi. Disinfection by Chlorination: Production of Hypochlorous Acid
xii. Disinfection by Chlorine: By-Products and their Health Effects
xiii. Disinfection by Chlorine: Advantages over Other Methods
xiv. Point-of-Use Water Disinfection
xv. The Nature and Supply of Groundwater
xvi. The Contamination of Groundwater
xvii. Nitrate Contamination of Groundwater
xviii. Health Hazards of Nitrates in Drinking Water
xix. Nitroamines in Food and Water
xx. Perchlorates
xxi. Groundwater Contamination by Organic Chemicals
xxii. Drugs in Water
xxiii. The Ultimate Sink for Organic Contaminants in Groundwater
xxiv. Decontamination of Groundwater: Physical and Chemical Processes
xxv. Decontamination of Groundwater: Bioremediation and Natural Attenuation
xxvi. Decontamination of Groundwater: In Situ Remediation
xxvii. Sewage Treatment
xxviii. The Origin and Removal of Excess Phosphate
xxix. Sodium Iminodisuccinate, a Biodegradable Chelating Agent
xxx. Reducing the salt Concentration in Water
xxxi. The Biological Treatment of Wastewater and Sewage
xxxii. The Treatment of Cyanides in Wastewater
xxxiii. The Disposal of Sewage Sludge
xxxiv. The Destruction of Volatile Organic Compounds
xxxv. Advanced Oxidation Methods for Water Purification
xxxvi. Photocatlytic Processes
xxxvii. Other Advanced Oxidation Methods

c. Toxic Heavy Metals

i. Speciation and the Toxicity of Heavy Metals
ii. Elementary Mercury
iii. Mercury Amalgams
iv. Mercury Emissions from Gold and Silver Production
v. Mercury and the Industrial Chlor-Alkali Procss
vi. The 2+ Ion of Mercury
vii. Mercury Emissions from Power Plants
viii. The Nature of Airborne Mercury
ix. Mercury Emission Control by Power Plants
x. Methylmercury Toxicity
xi. Mercury in the Human Diet
xii. Safe Level of Mercury in the Body
xiii. Minamata Disaster
xiv. Other Sources of Methylmercury
xv. Lead Through History
xvi. Elemental Lead in Ammunition
xvii. Ionic 2+ Lead and the Element
xviii. Lead in Drinking Water Systems
xix. Lead Salts as Glazes and Pigments
xx. Replacement of Lead in Electrodeposition Coatings
xxi. Dissolution of Otherwise-Insoluble Lead Salts
xxii. Ionic 4+ Lead in Automobile Batteries
xxiii. Tetravalent Organic Lead Compounds as Gasoline Additives
xxiv. Environmental Lead from Leaded Gasoline
xxv. Lead's Effects on Human Reproduction and Intelligence
xxvi. Environmental Sources of Cadmium
xxvii. Human Intake of Cadmium
xxviii. Human Protection Against Low Levels of Cadmium
xxix. Arsenic(III) Versus Arsenic(V) Toxicity
xxx. Anthropogenic Sources of Arsenic to the Environment
xxxi. Arsenic's Effect on Human Health
xxxii. Arsenic in Groundwater
xxxiii. Drinking water Standards for Arsenic
xxxiv. Removal of Arsenic from Water
xxxv. Arsenic in Organic and Other Molecular Forms
xxxvi. The Oxidation States of Chromium
xxxvii. Chromium Contamination of Water
xxxviii. The Wood Preservative CCA
xxxix. Removing the Arsenic and Chromium from Pressure-Treated Wood

4) Toxic Organic Compounds
    a. Pesticides
        i. Types of Pesticides
        ii. Concerns about Pesticides
        iii. Traditional Insecticides

iv. Organochlorine Insecticides
v. Pesticides in Water
vi. DDT's Structure and Characteristics
vii. DDT Levels in Modern Times
viii. Bioconcentration
ix. Biomagnification
x. Less Persistent Analogs of DDT
xi. Types of Toxicity
xii. Dose-Response Relationships
xiii. Lethal Doses and Concentrations
xiv. Risk Assessment
xv. Organophosphate Insecticides
xvi. Organophosphate Insecticides in the Environment
xvii. Malathion
xviii. Carbamate Insecticides
xix. Health Problems of Organophosphates and Carbamates
xx. Pesticides from Natural Sources
xxi. Integrated Pest Management
xxii. Insecticides That Target Only Certain Insects
xxiii. A New Method for Controlling Termites
xxiv. Spinetoram, an Improvement on a Green Pesticide
xxv. Herbicides
xxvi. Atrazine and Other Triazines
xxvii. Glyphosate
xxviii. Phenoxy Herbicides
xxix. The Degradation of Pesticides in the Environment

b. Dioxins, Furans, and PCB's
i. Dioxin Production in the Preparation of 2,4,5-T
ii. Dioxin Numbering System
iii. Chlorophenols as Pesticides
iv. Detecting Dioxins in Food and Water
v. The Structure of PCB Molecules
vi. The Numbering System for PCB's
vii. Commercial Uses of PCBs
viii. PCBs Cycling Among Air, Water, and Sediments
ix. PCB Contamination by Furans
x. Pulp and Paper Mills
xi. H_2O_2, an Environmentally Benign Bleaching Agent for the Production of Paper
xii. Fires and Incineration of Sources of Dioxins and Furans
xiii. Chlorine Content of Dioxin and Furan Emissions
xiv. Inadvertent PCB Poisonings
xv. Effects of in Utero Exposure to PCBs
xvi. The Toxicity Patterns of Dioxins, Furans, and PCBs

xvii. The TEQ Scale
xviii. Dioxins, Furans, and PCBs in Food
xix. Dioxins as Carcinogens and Acute Toxins
xx. Human Exposure to Dioxins, Furans, and PCBs

c. Other Toxic Organic Compounds of Environmental Concern
i. The Molecular Structure of PAHs
ii. PAHs as Air Pollutants
iii. PAHs as Water Pollutants
iv. Formation of PAHs During Incomplete Combustion
v. Carcinogenic Properties of PAHs
vi. Environmental Levels of PAHs and Human Cancer
vii. Mechanism of Action of Environmental Estrogens
viii. The Chemicals That Operate as Environmental Estrogens
ix. Phthalates
x. Effects of Environmental Estrogens on Wildlife
xi. Effects of Environmental Estrogens on Humans
xii. The Migration in Air of Organic Pollutants
xiii. Fire-Retardant Mechanisms for Brominated Compounds
xiv. PBDEs: A New Type of Persistent Pollutant
xv. Other Brominated Fire Retardants
xvi. Nonbrominated Fire Retardants
xvii. Perfluorinated Alkyl Acids

5) Environment and the Solid State
a. Wastes, Soils, and Sediments
i. The Varying Components of Domestic Garbage
ii. Burying Garbage in Lankfills
iii. Stages in the Decomposition of Garbage in a Landfill
iv. Leachate from a Landfill
v. Incineration of Garbage
vi. General Features of Recycling
vii. The Recycling of Metals and Glass
viii. The Recycling of Paper
ix. Development of Bio-based Toners
x. The Recycling of Tires
xi. Recycling Plastics: Their Constitution
xii. Recycling Plastics: Issues and Rates
xiii. Recycling Plastics: Biodegradable and Natural Versions
xiv. Recycling Plastics: Techniques
xv. Developing Recyclable Carpeting
xvi. Life-Cycle Assessments
xvii. Basic Soil Chemistry
xviii. The Acidity and Cation Exchange Capacity of Soil
xix. Soil Salinity
xx. Sediments

xxi. The Binding of Heavy Metals to Soils and Sediments
xxii. Mine Tailings
xxiii. The Remediation of Contaminated Soil
xxiv. The Analysis and Remediation of Contaminated Sediments
xxv. Bioremediation of Wastes and Soil
xxvi. Bioremediation of Organo-chlorine Contamination
xxvii. Phytoremediation of Soils and Sediments
xxviii. The Nature of Hazardous Wastes
xxix. The Management of Hazardous Wastes
xxx. Toxic Substances
xxxi. Incineration of Toxic Waste
xxxii. Air Emissions from Incinerators
xxxiii. Using Supercritical Fluids to Destroy Waste
xxxiv. Nonoxidative Processes of Waste Destruction

Materials:

Required Text:

Environmental Chemistry, 5th edition, Colin Baird and Michael Cann, Macmillan Press, ISBN 978-1-4292-7704-4

Required Technologies:

On-line access.

Grading Information:

Grades will be determined as shown in the following assignment chart. Due dates are detailed in the Course Schedule.

Assignment of Grade	Points
Syllabus Quiz	40
Discussion participation	340
Midterm examination	128

Homework	340
Project	340
Final examination	172
	1360

Grading Scale:

A (90-100) =	Excellent
B (80-89) =	Good
C (70-79) =	Below standards
F (69 or below) =	Failure
FN =	Failure for nonattendance
I =	Incomplete
W =	Withdrew

Assessment Information:

Discussions: 3 posts required for each discussion you participate in. The first post must be by Wednesday of the week. The 2nd and third posts are required by Friday. There are 2 discussions per Chapter requited. There are therefore 34 discussions required at 10 points each. Discussions are graded on grammar, completeness, timeliness, and content. No points will be awarded for posts like “I agree” or “I don’t agree”. You must back up your agreement or disagreement. Points will be deducted if the first posts are late.

Homework: Each week has an assignment worth 50 points.

Group project: The group project must be turned in by the end of week 5. The groups must be 3-5 people. You may form your own groups. You may choose to report on any physics topic we will be talking about all semester. You will write a group report and make a presentation. The presentation may be a power point or a movie, or any other form of presentation. If you are going to use something other than a power point or movie, please check with me first. The first week you will need to form your group (5 pts) and determine a topic (5 pts). If I form the groups and assign the topic, you lose those points. The 2nd week the outline for the paper is due (20 points). I will make suggestions to the outline, which I expect to be incorporated in the 1st draft. The 3rd week the 1st draft for the paper is due (20 points). After you turn in the first draft, I will make corrections and return the paper to the group. These should be incorporated into the 2nd draft. The

4th week the 2nd draft of the paper is due (20 points). The 5th week the paper is due (100 points) and the presentation is due (100 points). The 6th week you will view the other groups presentations and participate in a discussion of their presentations as well as defend your presentation and answer others questions on your presentation (20 pts). You will also evaluate each member of your group and every person in a group will submit a paper to me that not only shows me what you did, but what every other member of your group did, and how well everyone worked together in the group (10 pts).

Tests: There will be two tests, a midterm (128 pts) and a final, which is comprehensive (172 pts) These will be done in Canvas. The tests will be available on-line for the week. As with the other assignments, the tests are due by Friday of the week. There is an automatic extension until Sunday on the midterm, but NOT THE FINAL.

Class Policies Regarding Graded Work:

****The following policies are in effect for all individual deliverables throughout the semester, unless noted otherwise. ****

Late Work

The weeks will open on Friday. They are due the next Friday. There is an automatic extension until Sunday, but after that a 0 will be assigned for that assignment. There is no make-up beyond the second Sunday. All discussions must have their first posts done by Wednesday of the week. The 2nd and 3rd posts are due by Friday, with the automatic extension to Sunday.

You can get a hold of me via e-mail (lwoz@iun.edu). Do not use the course messaging system inside Canvas! I am on-line at least once every day. You can expect to hear from me within 24 hrs. If you do not hear from me within 24 hrs. I did not get your message, so try again.

Your grades will be updated every day except for the discussion grades. The discussion grades will be updated once a week. You can refer to your grades in Canvas

There is no make-up for any late work, other than the automatic extension from Friday to Sunday.

Original Work

Plagiarism

Honesty requires that any ideas or materials taken from another source for either written or oral use must be fully acknowledged. Offering the work of someone else as one's own is plagiarism. The language or ideas thus taken from another may range from isolated formulas, sentences, or paragraphs to entire articles copied from books, periodicals,

speeches, or the writings of other students. The offering of materials assembled or collected by others in the form of projects or collections without acknowledgment also is considered plagiarism. Any student who fails to give credit for ideas or materials taken from another source is guilty of plagiarism.

Cheating

Dishonesty of any kind with respect to examinations, course assignments, alteration of records, or illegal possession of examinations shall be considered cheating. It is the responsibility of the student not only to abstain from cheating but, in addition, to avoid the appearance of cheating and to guard against making it possible for others to cheat. Any student who helps another student to cheat is as guilty of cheating as the student he or she assists. The student also should do everything possible to induce respect for the examining process and for honesty in the performance of assigned tasks in or out of class.

Incompletes

If a student is unable to complete the course, and wishes to take an incomplete, they must request the incomplete. They will then have 1 year to make up the incomplete. They will need to join another P101 on-line class to make up the incomplete.

NOTE: The instructor will keep students apprised of assignment grades via the online class through **Canvas Grade book**. Students are responsible for contacting the instructor if they do not receive any grade by 10 days after the assignment submission date.

The Course Evaluation:

Many students disregard course evaluations as an optional part of taking a course. At IUN, and especially for online classes, completing the course evaluations is not optional. Your input, suggestions, opinions matter and are taken seriously. We cannot continue to promote online course offerings if students do not complete their course evaluations because departments are held accountable for having adequate response rates and instructors are also affected by low response rates. Please do your part in understanding that it is part of your duty as a student to complete every course evaluation, regardless of how you personally feel about the course or the instructor. They are that important.

IU Academic Policies:

This course is governed by IU academic policies in the following areas:

- Grading Guidelines
- Writing Standards
- Academic Integrity and Plagiarism

- Course Evaluations
- Students With Disabilities

Additional Information:

SUCCESSFUL STUDY USING CANVAS

The home page of Canvas has links, video tutorials and several tips and updates to help you navigate the website…

http://itnews.iu.edu/articles/2014/canvas-student-quickstart-guide.php

IU has prepared a reference page containing links to information about a variety of resources to help you function successfully in your online Canvas class…

http://www.iun.edu/online/visitor-resources/what-is-online-learning.htm

If you are having difficulty with technology, it is your responsibility to seek assistance. The IU Northwest Student Help Desk is there to help you. You can walk in if you're on campus, call, or email. The contact information is below:

IT Support Center:

Hawthorn 108
219-981-4357
iunhelp@iun.edu

(Available 24 hours/ 7 days a week)

RIGHT TO ACCOMMODATION FOR INDIVIDUALS WITH DISABILITIES:

Indiana University is committed to creating a learning environment and academic community that promotes educational opportunities for all individuals, including those with disabilities. Course directors are asked to make reasonable accommodations, upon request by the student or the university, for such disabilities. It is the responsibility of students with documented physical or learning disabilities seeking accommodation to notify their course directors and the relevant campus office that deals with such cases in a timely manner concerning the need for such accommodation. Indiana University will make reasonable accommodations for access to programs, services, and facilities as outlined by applicable state and federal laws.

Campus support office:
Student Support Services location: HH 29, (219) 980-6798
Student Support Services online: www.iun.edu/~supportn

Course Schedule:

Week	Chapters	Assignments
1	1, 2, 3, & 17	Week 1 Homework. Week 1 Discussion**s**, Group Formation and Topic for Group Paper
2	4, 5, 6, & 7	Week 2 Homework, Week 2 Discussions, Paper Outline
3	8, 9, & Midterm	Week 3 Homework, Week 3 Discussions Paper Draft 1, Midterm
4	10, 11, 12	Week 4 Homework, Week 4 Discussions, Paper Draft 2
5	13, 14, 15	Week 5 Homework, Week 5 Discussions, Paper Final Draft, Paper Presentation
6	16 & Final	Week 6 Homework, Presentation Critiques, Presentation Rebuttal, Evaluation of Group, Final Exam