



North Central State College  
MASTER SYLLABUS  
2020-2021

- A. Academic Division: Health Sciences
- B. Discipline: Bioscience Technology
- C. Course Number and Title: BIOS1030 Environmental Science
- D. Course Coordinator: Jason Tucker, M.S.  
Assistant Dean: Melinda Roepke, MSN, RN

Instructor Information:

- Name: [Click here to enter text.](#)
- Office Location: [Click here to enter text.](#)
- Office Hours: [Click here to enter text.](#)
- Phone Number: [Click here to enter text.](#)
- E-Mail Address [Click here to enter text.](#)

- E. Credit Hours: 4  
Lecture: 2 hours  
Laboratory: 4 hours
- F. Prerequisites: None  
Co-requisite(s): BIOL1230, CHEM 1210, BIOS1010
- G. Syllabus Effective Date: Fall, 2020
- H. Textbook(s) Title:

*Environment*

- Author(s): Jay Withgott, Matthew Laposata
- Copyright Year: 2018
- Edition: 6th
- ISBN: 9780134145938

- I. Workbook(s) and/or Lab Manual:

Handouts will be provided or posted on the Learning Management System.  
Required Laboratory Notebook (i.e. Composition Book).

- J. Course Description: This course is designed to give students an introduction to the scientific concepts and laboratory research techniques currently used in the field of environmental science and environmental biotechnology. Students develop laboratory skills, critical thinking, and communication skills currently used in the industry. Topics covered will include renewable energy, environmental pollution monitoring, sewage treatment including domestic, agricultural, and industrial waste, bioremediation, biofuels, sustainability, clean biotechnology techniques, laboratory work, and workplace experiences via off site tours.

K. College-Wide Learning Outcomes

College-Wide Learning Outcomes	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Describe ecosystem ecology and the Earth’s physical systems.	Written homework assignment (Week 1), midterm (Week 6-7) and final examination
2. Describe environmental science and sustainability.	Quiz (Week 2), midterm examination (Week 6-7) and final examination
3. Demonstrate proper lab safety and identify safety procedures used in the lab.	Quiz (Week 2), midterm (Week 6-7) and final examination
4. Perform math computations and lab techniques with various environmental assessment, DOo, pH, conductivity, temperature, turbidity.	Written homework assignment, weekly lab assignments (Week 2-3), midterm (Week 6-7) and final examination
5. Illustrate the fundamentals of pollution control.	Written homework assignment, quiz (Week 4) and midterm examination (Week 6-7) and final examination
6. Identify factors influencing global climate change.	Quiz (Week 7-8), midterm and final examination
7. Describe fundamentals of alternative energy, bioremediation and bio-fuels.	Quiz (Week 10) and final examination
8. Classify the fundamentals of industrial waste management and bioremediation.	Quiz (Week 11-12) and final examination
9. Describe fundamentals of other biotechnical techniques and sustainable solutions: plant, DNA, GMO’s.	Quiz (Week 13-14) and final examination

M. Topical Timeline (Subject to Change):

Week	Topical Timeline
1	Ecosystem Approach in Environmental Management
2	Ecology and the Earth’s physical systems
3	Sustainability
4	Fundamentals of pollution control
5	Environmental Health and Toxicology
6	Freshwater systems and Resources
7 and 8	Global climate change
9	Fundamentals of waste management
10	Renewable energy alternatives
11 and 12	Fundamentals of bioremediation and resource management
13 and 14	Fundamentals of other biotechnology techniques
15	Environmental policy

N. Course Assignments:

1. Reading assignments (Weekly)
2. Maintain a written lab journal (Weekly)
3. Written assignments
4. Group project (Week 13-15)
5. Field trips off campus i.e. water treatment plant, biodigester at OARDC, sewage treatment plant (Week 5-6 and Week 10-12)

O. Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
93-100	A	4.00	Superior
90-92	A-	3.67	Superior
87-89	B+	3.33	Above Average
83-86	B	3.00	Above Average
80-82	B-	2.67	Above Average
77-79	C+	2.33	Average
73-76	C	2.00	Average
70-72	C-	1.67	Below Average
67-69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
00-59	F	0.00	Failure

P. Grading and Testing Guidelines:

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Q. Examination Policy:

Click here to enter text.

R. Class Attendance and Homework Make-Up Policy:

Click here to enter text.

S. Classroom Expectations:

Click here to enter text.

T. College Procedures/Policies:

**Important information regarding College Procedures and Policies can be found on the [syllabus supplement](#) located at**

**<http://catalog.ncstatecollege.edu/mime/download.pdf?catoid=5&ftype=2&foid=3>**