Wharton County Junior College

Administrative Master Syllabus

Course Information

Course Title	Environmental Biology (lab)
Course Prefix, Num. and Title	BIOL2106 – Environmental Biology (lab)
Division	Life Sciences
Department	Biology
Course Type	Academic WCJC Core Course
Course Catalog Description	This laboratory-based course accompanies Biology 2306, Environmental Biology. Laboratory activities will reinforce principles of environmental systems and ecology, including biogeochemical cycles, energy transformations, abiotic interactions, symbiotic relationships, natural resources and their management, lifestyle analysis, evolutionary trends, hazards and risks, and approaches to ecological research.
Pre-Requisites	Credit for or concurrent enrollment in BIOL2306 Environmental Biology
Co-Requisites	Enter Co-Requisites Here.

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours: Lab/Other Hours	1:0:2
Equated Pay Hours	1.2
Lab/Other Hours Breakdown: Lab Hours	2
Lab/Other Hours Breakdown: Clinical Hours	Enter Clinical Hours Here.
Lab/Other Hours Breakdown: Practicum Hours	Enter Practicum Hours Here.
Other Hours Breakdown	List Total Lab/Other Hours Here.

Approval Signatures

Title	Signature	Date
Department Head:	Jennifer Mahlmann Digitally signed by Jennifer Mahlmann Date: 2024.10.02 11:59:04 -05'00'	
Division Chair:	Kevin Dees Digitally signed by Kevin Dees Date: 2024.10.02 15:45:21 -05'00'	
VPI:	Leigh Ann Collins Digitally signed by Leigh Ann Collins Date: 2024.10.03 16:20:41 -05'00'	

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Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

(A lab schedule detailing weekly lab exercises is maintained by the department.)

1. Application of the Scientific method to Environmental Biology
2. Biological Populations
3. Biological Habitats and Ecology
4. Biodiversity application to Environmental Biology
5. Human Ecological Footprint application to Environmental Biology
6. Water Resources and Wastewater applications
7. Environmental Conservation

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Explain the structure and impact of biogeochemical cycles.
5. Describe energy transformations across trophic levels.
6. Illustrate abiotic/biotic interactions and symbiotic relationships.
7. Identify various types of natural resources, human impact on these resources, and common resource management practices.
8. Quantify and analyze the impact of lifestyle on the environment.
9. Depict evolutionary trends and adaptations to environmental changes.
10. Describe environmental hazards and risks and the social and economic ramifications.
11. Describe ecological and statistical techniques and approaches used in the study of environmental biology.

Methods of Assessment:

Exams, quizzes, projects, presentations, field trips and case studies as appropriate

Required text(s), optional text(s) and/or materials to be supplied by the student:

None

Suggested Course Maximum:

24

List any specific or physical requirements beyond a typical classroom required to teach the course.

Standard biology lab set up with workspace, electrical outlets and sinks; field trips may be required.

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Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

Lab Exams (2 per semester)	30-50%
Lab quizzes, worksheets, projects, and assignments	50-70%
Total	100%

A -100-90%; B – 89-80%; C 79-70%; D – 69-60%; F- below 60%

Curriculum Checklist:

☐**Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.

☒**Administrative WCJC Core Course** – Attach the Core Curriculum Review Forms

- ☒Critical Thinking
- ☒Communication
- ☒Empirical & Quantitative Skills
- ☒Teamwork
- ☐Social Responsibility
- ☐Personal Responsibility

☐**WECM Course** – If needed, revise the Program SCANS Matrix and Competencies Checklist

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Core Curriculum Review Form

Foundational Component Area: Core 090: Component Area Option

Course Prefix & Suffix: BIOL2106

Core Objective:

Critical Thinking Skills—to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

Student Learning Outcome Supporting Core Objective:

For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Use critical thinking and scientific problem solving to make informed decisions in the laboratory.	Group project related to humans interactions with the environment	Group lab activity, assignment, lab practical, lab quiz or post-test
State Mandated	Quantify and analyze the impact of lifestyle on the environment	Group project related to humans interactions with the environment	Group lab activity, assignment, lab practical, lab quiz or post-test
Choose a SLO status.	Insert SLO (from Administrative Master Syllabi)	Provide a brief name and description of the sample learning activity.	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective.

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Core Curriculum Review Form

Foundational Component Area: Core 090: Component Area Option

Course Prefix & Suffix: BIOL2106

Core Objective:

Communication Skills—to include effective development, interpretation and expression of ideas through written, oral and visual communication

Student Learning Outcome Supporting Core Objective:

For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Use critical thinking and scientific problem solving to make informed decisions in the laboratory.	Group project related to humans interactions with the environment	Group lab activity, assignment, lab practical, lab quiz or post-test
State Mandated	Quantify and analyze the impact of lifestyle on the environment	Group project related to humans interactions with the environment	Group lab activity, assignment, lab practical, lab quiz or post-test
Choose a SLO status.	Insert SLO (from Administrative Master Syllabi)	Provide a brief name and description of the sample learning activity.	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective.

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Core Curriculum Review Form

Foundational Component Area: Core 090: Component Area Option

Course Prefix & Suffix: BIOL2106

Core Objective:

Empirical and Quantitative Skills—to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

Student Learning Outcome Supporting Core Objective:

For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Use critical thinking and scientific problem solving to make informed decisions in the laboratory.	Group project related to humans interactions with the environment	Group lab activity, assignment, lab practical, lab quiz or post-test
State Mandated	Quantify and analyze the impact of lifestyle on the environment	Group project related to humans interactions with the environment	Group lab activity, assignment, lab practical, lab quiz or post-test
Choose a SLO status.	Insert SLO (from Administrative Master Syllabi)	Provide a brief name and description of the sample learning activity.	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective.

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Core Curriculum Review Form

Foundational Component Area: Core 090: Component Area Option

Course Prefix & Suffix: BIOL2106

Core Objective:

Teamwork—to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

Student Learning Outcome Supporting Core Objective:

For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Use critical thinking and scientific problem solving to make informed decisions in the laboratory.	Group project related to humans interactions with the environment	Group lab activity, assignment, lab practical, lab quiz or post-test
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