Your University of Choice

COURSE SYLLABUS

Term: SPRING 2017

Course: BIOL 205 PLANTS, ANIMALS AND ECOSYSTEMS – SECTION A

Instructor Information:	
Instructor Name	Dr. Fiona Groninger-Poe
Office Number:	331
Phone Number:	(219) 473-4357, leave a message
Email:	fpoe@ccsj.edu To contact Dr. Poe using e-mail: 1. Use your CCSJ account 2. Type "Biol 205" in the subject line 3. Compose and send your e-mail
Hours Available:	Office hours are posted outside of room 331; typically available 1:30-2:30 pm Monday, Wednesday, Thursday and 10 am – 1 pm Tuesday
Instructor Background: B.S. Manchester University (Chemistry, 2008); Ph.D. University of Illinois at Urbana-Champaign (Biochemistry, 2014); Science Olympiad Volunteer Event Supervisor (2014-present); American Society for Microbiology science teaching fellow (2013); Robert L. Switzer Teaching Award (2012). Research interests include microbiology, enzymology, agar degradation pathways, and sugar metabolic pathways in plant pathogens.	

Course Information:	
Course Time:	Lecture: Monday and Wednesday noon – 1:30 pm
Classroom:	334
Prerequisites:	C or better in BIOL 115 and BIOL 115L and concurrent enrollment in BIOL 205L
Required Books and Materials:	Urry's Campbell Biology in Focus, 2nd Edition, 2016, Pearson Publishing ISBN – 9780134433769 ***You will need an access code for homework assignments which counts for ~30% of the grade. Used books will NOT have the access code.***
Learning Outcomes/ Competencies: Students will: • Develop and defend hypotheses • Propose experiments with appropriate controls, following the scientific method • Compare and contrast levels of organization in prokaryotes and eukaryotes	

- Classify organisms based on structural features
- Use scientific nomenclature standards to correctly name organisms
- Explain the evolutionary development of microorganisms, plants, invertebrates, and vertebrates
- Compare structural features and function in plants
- Relate structure and function in invertebrates
- Describe structure and function in vertebrates
- Diagram and interpret evolutionary relatedness/divergence using phylogenetic trees
- Evaluate effect of human intervention on ecosystems
- Discuss unifying concepts of biology: evolution, structure/function relationships, adaptations, and selection

Course Description:
A 3 credit hour course. Introduction to biological concepts, including classification and levels of organization, organismal biology including surveys of plant biology and zoology, ecology and conservation biology. Students will explore unifying concepts in biological science while developing key investigative skills necessary for scientific exploration and hypothesis testing. Includes laboratory.

Learning Strategies:
Active learning, BlackBoard, group discussions, small group work, team projects, collaborative learning, laboratory exercises, demonstrations, field work

Experiential Learning Opportunities:
Laboratory experience is essential for a fundamental understanding of the scientific method. This course has a required laboratory portion that provides students with experiential learning through experimental design, hypothesis development, data interpretation, and communication of results through laboratory reports. The laboratory section allows students to design and implement their own research experiment to be conducted throughout the semester.

Assessments:

Lecture Exams	90 minutes, 4 total; lowest score is dropped	100 pts x 3 = 300 pts (about 42% of the grade points)
Homework	ACCESS CODE IS REQUIRED. Homework will be assigned through the companion website, with a link available on BlackBoard. Lowest 1 score is dropped	10 pts x 21 = 200 pts* (about 28% of the grade points)
Class Participation	No cellular phones out, respectful demeanor, prepared for class, no distractions, helps group with in-class work; three scores in this category are dropped	10 pts x 22 = 220 pts* (about 30% of the grade points)

TOTAL POINTS AVAILABLE = 720 POINTS*

***The total may be adjusted based on actual number of assignments, as needed. See BlackBoard for changes**

Grading Scale:
100 – 92: A 91 – 90: A-

89 – 88: B+ 87 – 82: B 81 – 80: B-
79 – 78 : C+ 77 – 72: C 71 – 70 : C-
69 – 68: D+ 67 – 62: D 61 – 60: D-
59 and below F

LECTURE THEMES:

1. Structure/function relationships
2. Evolutionary relationships

LECTURE TOPICS: This is the order in which topics will be covered

Exam 1: The Evolutionary History of Life

1. Review of Biol 115 topics (cells and evolution): macromolecules, genetics, phylogeny (Ch 3, 4, 19, 20, 21)
2. Early life and the Diversification of Prokaryotes (Ch 24)
3. The origin and diversification of eukaryotes (Ch 25)

Exam 2: Evolutionary steps, ecology, plant growth

4. The colonization of land (Ch 26)
5. The Rise of Animal Diversity (Ch 27)
6. Ecology and resources: water (documentary, readings on BlackBoard)
7. Plant structure and growth (Ch 28)

Exam 3: Plants and animals: form and function

8. Resource Acquisition, Nutrition, and transport in vascular plants (Ch 29)
9. Reproduction and Domestication of Flowering Plants (Ch 30)
10. Plant responses to internal and external signals (Ch 31)
11. The Internal environment of animals: organization and regulation (Ch 32)
12. Animal nutrition (Ch 33)

Exam 4: cumulative, TBA

DUE DATES

- AT EACH CLASS MEETING (check with the instructor if you are absent)
    - Homework (assigned and collected through BlackBoard, pay attention to due dates AND times)
    - In class participation/assignments
- WEEKLY (check BlackBoard for these assignments)
    - Pre labs can be found on BlackBoard as part of the lab handout
    - Pre-labs are due at the start of that lab (Pre lab 2 is due at the start of Lab 2)
    - Completed lab reports (often done in a laboratory notebook with carbon copy pages) are due on the *next* lab meeting (e.g. Lab 1 is due on the day Lab 2 is performed)
        - Rubrics available on BlackBoard
        - Contact the professor if you are absent during lab to determine best course of action
        - In the event of absence, lab reports can be turned in via BlackBoard or by having another student hand it in for you. Do not email your report.

Course Schedule:		
Class Date	**Assignments due**	**Class Discussion/Activities**
Week 1: Jan 9 - 12 Review of key biological concepts (Ch 3, 4, 19, 20, 21); Early life and the Diversification of Prokaryotes (Ch 24)	**Purchase the textbook with access code**	Syllabus quiz Lab safety quiz Pretest In-class 1 In-class 2
Week 2: Jan 16-19 Early life and the Diversification of Prokaryotes (Ch 24) **JAN 16 – NO CLASSES** **JAN 17 – Last day for course changes**	Read corresponding book chapter Do Cornell notes, optional	In-class 3 In-class 4 **Homework 1 and 2 assigned (through BlackBoard; must have an access code and register with Pearson's MasteringBiology)**
Week 3: Jan 23 -26 The origin and diversification of eukaryotes (Ch 25)	Read corresponding book chapter Do Cornell notes, optional **HW 1 due Mon Jan 23**(link through BlackBoard) **HW 2 due Wed Jan 25**	In-class 5 In-class 6 Homework 3 and 4 assigned (link through BB)
Week 4: Jan 30 – Feb 2 The origin and diversification of eukaryotes (Ch 25); The colonization of land (Ch 26)	Read corresponding book chapter Do Cornell notes, optional HW 3 due **Mon** HW 4 due **Wed**	In-class 7 Homework 5 and 6 assigned (link through BB)
Week 5: Feb 6 – 9 The colonization of land (Ch 26) The Rise of Animal Diversity (Ch 27) *****EXAM 1 – Feb 6***** **Feb 6 –** Last day to withdraw without instructor approval **FEB 6 - MIDTERM**	Read corresponding book chapter Do Cornell notes, optional HW 5 due **Mon** HW 6 due **Wed**	In class 8 In-class 9 Homework 7 assigned
Week 6: Feb 13 - 16 The Rise of Animal Diversity (Ch 27); Ecology and resources: water (reading on BlackBoard)	Read corresponding book chapter Do Cornell notes, optional HW 7 due **Wed**	In-class 10 In-class 11 Homework 8 and 9 assigned

Week 7: Feb 20 - 23 Ecology and resources: water (documentary, reading on BlackBoard)	Read corresponding book chapter Do Cornell notes, optional HW 8 due **Mon** HW 9 due **Wed**	In-class 12 In-class 13 Homework 10 and 11 assigned
Week 8: Feb 27 – Mar 2 **SPRING BREAK**	NO CLASS	NO CLASS
Week 9: Mar 6 - 9 Plant structure and growth (Ch 28)	Read corresponding book chapter Do Cornell notes, optional HW 10 due **Mon** HW 11 due **Wed**	In-class 14 In class 15 Homework 12 assigned
Week 10: Mar 13 - 16 Resource Acquisition, Nutrition, and transport in vascular plants (Ch 29) ****EXAM 2 – MAR 13****	Read corresponding book chapter Do Cornell notes, optional HW 12 due **Mon**	In-class 16 In-class 17 Homework 13 and 14 assigned
Week 11: Mar 20 - 23 Reproduction and Domestication of Flowering Plants (Ch 30)	Read corresponding book chapter Do Cornell notes, optional HW 13 due **Mon** HW 14 due **Wed**	In-class 18 In-class 19 Homework 15 and 16 assigned
Week 12: Mar 27 - 30 Plant responses to internal and external signals (Ch 31)	Read corresponding book chapter Do Cornell notes, optional HW 15 due **Mon** HW 16 due **Wed**	In-class 20 Homework 17 and 18 assigned
Week 13: Apr 3 - 6 The Internal environment of animals: organization and regulation (Ch 32)	Read corresponding book chapter and do Cornell notes HW 17 due **Mon** HW 18 due **Wed**	In-class 21 In-class 22 Homework 19 assigned
Week 14: Apr 10 - 13 The Internal environment of animals: organization and regulation (Ch 32); Animal nutrition (Ch 33) **April 14, 15 - Easter Recess**	Read corresponding book chapter Do Cornell notes, optional HW 19 due **Mon** HW 20 due **Wed**	In-class 23 In-class 24 Homework 20 and 21 assigned
Week 14: Apr 17 - 20 Animal nutrition (Ch 33) *****EXAM 3 – APRIL 19*****	Read corresponding book chapter Do Cornell notes, optional HW 21 due **Mon**	In-class 25 No new assignments

April 21 – LAST DAY TO WITHDRAW		
Week 15: Apr 24 - 27 SEMESTER EXAMINATIONS *****EXAM 4 – TBA*****	**No assignments due**	

***I reserve the right to change this schedule to meet the needs of the class.**

Responsibilities	
Attending Class	You cannot succeed in this class if you do not attend. We believe that intellectual growth and success in higher education occur through interaction in the classroom and laboratories. However, we do not want to penalize students for participating in college-sponsored events. When you miss class because of a college event, you must give notice of your absence at least 24 hours in advance, and you are responsible for all missed work. Being absent doesn't excuse you from doing class work; you have **more** responsibilities to keep up and meet the objectives of this course. Attendance is counted as being present from the first 10 minutes of class until the end of lecture and lab. It is the student's responsibility to make attendance a priority. Anyone missing after the first 10 minutes of class will be marked absent unless a written excuse is provided within 24 hours of the occurrence. Similarly, anyone leaving early without a written excuse will be counted as absent. Participation through regular attendance is required to be successful in this course. Therefore, if a student is absent more than three (3) times from lecture or one (1) time from lab (excessive tardiness is counted as absence), the student will be subjected to a grade of F or FW per policy stated under the Withdrawal from Classes section on this syllabus. In the event of absence during an **exam**, the student will receive a ZERO (0) on that exam. The lowest exam score is dropped, so that exam score will not be considered when determining the final grade. If a student is absent during more than one exam, the student will receive a ZERO (0) for each exam, but only one grade will be dropped. It is the student's responsibility to ensure attendance on exam dates. In the event of multiple *excused* absences (with acceptable documentation), it is the student's responsibility to contact the instructor to determine an appropriate course of action. In the event of absence during **lab**, the student must contact the instructor within 24 hours of the absence to determine an acceptable course of action. Each laboratory exercise is different, and in some cases

	a make-up lab would be impractical due to costs or time restrictions. As with exams, one lab report is dropped so one absence is permitted without penalty. For excused absences, make-up labs *may* be permitted at the instructor's discretion only if an acceptable substitute assignment can be determined. ALL WORK IS DUE ON THE DUE DATE SPECIFIED IN THIS SYLLABUS OR ON BLACKBOARD. If a student is absent on lab 2, the student must still turn in lab 1 due that day. Contact the instructor if an extension is needed. See "Turning In Your Work" below.
Turning In Your Work	You cannot succeed in this class if you do not turn in all your work on the day it is due. Due dates are specified for each assignment on this syllabus; any changes will be announced in class and posted on BlackBoard. **ASSIGNMENTS WILL NOT BE ACCEPTED AFTER THEIR DUE DATES LISTED ON THIS SYLLABUS OR ON BLACKBOARD.** You may request an extension in writing within 24 hours of the due date for assignments, but it is up to the instructor's discretion whether or not to allow an extension. **If you are absent the day that an assignment is due, follow these guidelines:** • HOMEWORK: turn in via BlackBoard on its scheduled due date • IN-CLASS ACTIVITIES: it is the student's responsibility to collect and do this work independently after an absence. Credit is awarded for excused absences only. • LAB REPORTS: turn in via BlackBoard or handed in to the professor (sliding under office door is acceptable) on its scheduled due date; do not email the report. **You must contact the professor** to determine what to do about missing the lab section. If a link is not available through BlackBoard to turn in the assignment, notify the professor via email. Do not submit your assignments via email
Using Electronic Devices	Electronic devices can only be used in class for course-related purposes. If you text or access the Internet for other purposes, you may be asked to leave, in which case you will be marked absent and will lose all participation points for the day. In the event of an emergency in which the student needs access to phone or pager during class, the student must communicate this potential distraction to the instructor in advance of the start of class to determine a reasonable course of action. If the student does not communicate this to the instructor in advance of class, the student may be asked to leave and be marked absent, losing participation points for the day.
Participating in Class	You must be on time, stay for the whole class and speak up in a way that shows you are prepared for class. If you are not prepared for class

	discussion, you may be asked to leave, in which case you will be marked absent and lose participation points for the day. Students must be prepared for class, polite and respectful, help with in-class group work, show attentiveness throughout class, and ensure that conversations stay on topic. 2 points will be deducted for each infraction, up to the maximum points for the day. If cell phones are inappropriately used students will lose all participation points for the day. Grade notes will be entered on BlackBoard describing any subtraction of points.
Doing Your Own Work	If you turn in work that is not your own, you are subject to judicial review, and these procedures can be found in the College Catalog and the Student Planner. The maximum penalty for any form of academic dishonesty is dismissal from the College. Using standard citation guidelines to document sources avoids plagiarism. **For this class, you MUST use American Chemical Society (ACS) style**, available online for free at the following link: http://pubs.acs.org/userimages/ContentEditor/1246030496632/chapter14.pdf Be sure to use your own words *completely* (use your own sentence structure not just a thesaurus to change a few words or phrases), cite your source in the text using superscript or parenthetical notation, and attach a works cited page to the end of the assignment. If your paper is similar in sentence structure, phrasing, figures, etc, to another student's both students will be punished based on the severity of the plagiarism. **PLEASE NOTE:** All papers may be electronically checked for plagiarism.
Withdrawing from Class	After the last day established for class changes has passed (see the College calendar), you may withdraw from a course by following the policy outlined in the CCSJ Course Catalog.

Resources	
Student Success Center:	The Student Success Center provides faculty tutors at all levels to help you master specific subjects and develop effective learning skills. It is open to all students at no charge. You can contact the Student Success Center at 219 473-4287 or stop by the Library.
Disability Services:	Disability Services strives to meet the needs of all students by providing academic services in accordance with Americans with Disabilities Act (ADA) guidelines. If you believe that you need a "reasonable accommodation" because of a disability, contact the Disability Services Coordinator at 219-473-4349.
CCSJ Alerts:	Calumet College of St. Joseph's emergency communications system will tell you about emergencies, weather-related closings, or other incidents via text, email, or voice messages. Please sign up for this important

	service annually on the College's website at: http://www.ccsj.edu/alerts/index.html. In addition, you can check other media for important information, such as school closings: **Internet:** http://www.ccsj.edu **Radio:** WAKE – 1500 AM, WGN – 720 AM, WIJE – 105.5 FM, WLS – 890 AM, WZVN – 107.1 FM, WBBM NEWS RADIO 78 **TV Channels:** 2, 5, 7, 9, 32

Emergency Procedures

MEDICAL EMERGENCY

EMERGENCY ACTION
1. Call 911 and report incident. 2. Do not move the patient unless safety dictates. 3. Have someone direct emergency personnel to patient. 4. If trained: Use pressure to stop bleeding. 5. Provide basic life support as needed.

FIRE

EMERGENCY ACTION
1. Pull alarm (located by EXIT doors). 2. Leave the building. 3. Call 911 from a safe distance, and give the following information: • Location of the fire within the building. • A description of the fire and how it started (if known)

BUILDING EVACUATION

1. All building evacuations will occur when an alarm sounds and/or upon notification by security/safety personnel. **DO NOT ACTIVATE ALARM IN THE EVENT OF A BOMB THREAT.**
2. If necessary or if directed to do so by a designated emergency official, activate the building alarm.
3. When the building evacuation alarm is activated during an emergency, leave by the nearest marked exit and alert others to do the same.
4. Assist the disabled in exiting the building! Remember that the elevators are reserved for persons who are disabled. **DO NOT USE THE ELEVATORS IN CASE OF FIRE. DO NOT PANIC.**
5. Once outside, proceed to a clear area that is at least 500 feet away from the building. Keep streets, fire lanes, hydrant areas and walkways clear for emergency vehicles and personnel. The assembly point is the sidewalk in front of the college on New York Avenue.
6. **DO NOT RETURN** to the evacuated building unless told to do so by College official or emergency responders.

IF YOU HAVE A DISABILITY AND ARE UNABLE TO EVACUATE:

Stay calm, and take steps to protect yourself. If there is a working telephone, call 911 and tell the emergency dispatcher where you are **or** where you will be moving. If you must move,

1. Move to an exterior enclosed stairwell.
2. Request persons exiting by way of the stairway to notify the Fire Department of your location.
3. As soon as practical, move onto the stairway and await emergency personnel.
4. Prepare for emergencies by learning the locations of exit corridors and enclosed stairwells. Inform professors, and/or classmates of best methods of assistance during an emergency.

HAZARDOUS MATERIAL SPILL/RELEASE

EMERGENCY ACTION
1. Call 911 and report incident. 2. Secure the area. 3. Assist the injured. 4. Evacuate if necessary.

TORNADO

EMERGENCY ACTION
1. Avoid automobiles and open areas. 2. Move to a basement or corridor. 3. Stay away from windows. 4. Do not call 911 unless you require emergency assistance.

SHELTER IN PLACE

EMERGENCY ACTION
1. Stay inside a building. 2. Seek inside shelter if outside. 3. Seal off openings to your room if possible. 4. Remain in place until you are told that it is safe to leave.

BOMB THREATS

EMERGENCY ACTION
1. Call 911 and report incident. 2. If a suspicious object is observed (e.g. a bag or package left unattended): • Don't touch it! • Evacuate the area.

TERRORISM AND ACTIVE SHOOTER SITUATIONS

EMERGENCY ACTION
1. Call 911 and report intruder.

RUN, HIDE OR FIGHT TIPS:

1. **Prepare** – frequent training drills to prepare the most effectively.
2. **Run and take others with you** – learn to stay in groups if possible.
3. **Leave the cellphone.**

4. **Can't run? Hide** – lock the door and lock or block the door to prevent the shooter from coming inside the room.
5. **Silence your cellphone** -- use landline phone line.
6. **Why the landline?** It allows emergency responders to know your physical location.
7. **Fight** – learn to "fight for your life" by utilizing everything you can use as a weapon.
8. **Forget about getting shot – fight**! You want to buy time to distract the shooter to allow time for emergency responders to arrive.
9. **Aim high** – attack the shooter in the upper half of the body: the face, hands, shoulder, neck.
10. **Fight as a group** – the more people come together, the better the chance to take down the shooter.
11. **Whatever you do, do something** – "react immediately" is the better option to reduce traumatic incidents.