**BIOL 298A – HONR: Principles of Biology**

**West Virginia University**

**Fall Semester 2014**

**Teaching Assistant**:

**Office**:

**Phone**:

**Email**:

**Section**:

**Meeting Time**:

**Location**:

**TA Office Hours**:

**General Course Description**: BIOL298AHONR (1cr). This Problem-Based Team-Based (PTBL) learning course (modeled after those offered at many medical schools) gives honors students the opportunity to apply what they learn in an introductory biology class to modern, scientific issues. Students will combine high-level skills in communication, computation, technological literacy, and information retrieval to gain and apply knowledge/skills required to solve problems one would encounter in real-world situations. An emphasis is placed on varied forms of information dissemination as well. As an Honors add-on, students will receive only one credit for this course, but by taking BIOL 115 concurrent with this course, will receive a total of four hours of Honors credit.

**Course Learning Objectives**: Throughout the course of the semester, students will hone skills that are appreciated by multiple disciplines, not only the biological sciences. Upon successful completion of this course students will be able to:

1. Arrive at informed judgments to effectively define problems, gather and evaluate information related to those problems, and develop solutions.
2. Think critically to analyze, and solve complex, real-world problems.
3. Find, evaluate, and employ appropriate learning resources.
4. Work effectively in teams with other students of diverse backgrounds to accomplish a common goal.
5. Rationally disseminate scientific findings in varied formats to peers and others in the scientific community.

**Required Materials**:

**Course Website**: <http://ecampus.wvu.edu/> - Houses course-related reading assignments, homework assignments, handouts, and electronic copies of the syllabus.

**Class Attendance and Participation:** Students are expected to attend class. Your participation will be assessed using online quizzes, homework, and weekly in-class individual/team exercises. Missing class results in not being able to earn the points for these assignments, unless the absence is University-excused (University-sponsored travel, extreme illness, or death of an immediate family member). Students must inform their instructor of the absence within 24 hours to be granted permission to make up the points. Instructors will then inform the student how to go about making up the missed assignment. Make-up assignments will be due one week from the original date of the in-class activity. Failure to contact or submit a makeup activity within this time frame will result in a zero.

**Class Civility:** Since every student is entitled to full participation in class without interruption, all students are expected to be in class and prepared to begin on time. All sound-generating devices, e.g. cell phones, must be turned off when you enter the classroom. Disruption of class, whether by latecomers, noisy devices, or inconsiderate behavior, will not be tolerated. Respect for individual differences and alternative viewpoints will be maintained at all times.

**GRADES**

BIOL 298A is PTBL course, meaning that the majority of the time, students will work in established teams. This results in some grades that will be earned by all members of the team, while others will be assigned on an individual basis. Below is a table indicating gradable materials (assignments) for the course and provides you with an area to track your individual progress in the class.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assignment** | **Individual/Team Grade** | **Points Possible** | **Points Earned** |
| Team Rules | Team | 5 |  |
| Anonymous Pre-Survey | Individual | 10 |  |
| RAT Project #1 Individual | Individual | 25 |  |
| RAT Project #1 Team | Team | 15 |  |
| Molecular Pathway | Team | 15 |  |
| Project #1 Deliverable: Formal Paper | Individual/Team | 60 |  |
| RAT Project #2 Individual | Individual | 25 |  |
| RAT Project #2 Team | Team | 15 |  |
| Gene Alignment | Individual | 20 |  |
| Project #2 Deliverable: YouTube-Style Video | Individual/Team | 80 |  |
| Video Feedback | Team | 10 |  |
| Final Poster | Individual/Team | 50 |  |
| Poster Session | Individual | 30 |  |
| Anonymous Post-Survey | Individual | 20 |  |
|  | **TOTAL:** | 380 | /380 |

The grades earned in this course can be divided into the following categories:

**Pre- and Post-Surveys:** Each student will be expected to complete an anonymous survey, both at the beginning of the semester and again at the end, detailing their thoughts about the course and their past educational experiences. Honesty is a must in the completion of these surveys, therefore, grades are based on completion of the surveys alone, not an individual’s feedback about the class.

**In-Class Activities:** Whether team-based or individual-based, the activities performed in class will often be turned in for a grade. Students will be made fully aware which activities are graded, and which are not, during lecture. Some graded in-class activities cannot be accomplished without prior assigned homework being completed. Homework assignments will be announced in lecture and are also listed in the course schedule below. Additional homework assignments may be added if necessary to keep the course on schedule.

**Readiness Assurance Tests (RATs):** To prepare for each of the projects that we will attempt this semester, pre-class reading assignments will be placed on eCampus. Students are responsible for reading these assignments in preparation for a series of online quizzes that will take place during class (the RATs). Each RAT will be taken twice: once by the individual student, then again as a team effort.

**Projects:** Over the course of the semester, teams will complete two major projects. The projects are based on an over-all theme chosen by the instructor, but students are required to choose the topics for their individual projects.

With an emphasis on information dissemination, the deliverables for these projects are a formal, written paper and a YouTube-style video respectively. Each project will be graded based on a series of rubrics that students will receive prior to the due date for each deliverable.

Each project is graded on a team and individual level. A portion of the grade for each project will come from a self and peer evaluation that each student will complete for themselves and for each of their team mates.

**Poster Presentation:** The last assignment of the semester will be that of the creation of a poster of the team’s favorite project. Grades will be assigned for both the quality of the poster (based on rubrics students will receive prior to the due date) and for attendance and participation in a Biology Department-wide formal poster presentation session.

**Grade Calculation**: The grading scale and corresponding number of points required to reach each letter grade is listed below. *Please note: Only grades that are at or above a decimal point of 0.5 will be rounded up to the next letter grade.*

|  |  |  |
| --- | --- | --- |
| Grade Calculation: | |  |
| **Final Grade** | **Percentage** | **Points Required** |
| A | 89.5 - 100 | 340 - 380 |
| B | 79.5 - 89.4 | 302 - 339 |
| C | 69.5 - 79.4 | 264 - 301 |
| D | 59.5 - 69.4 | 226 - 263 |
| F | 59.4 or below | 225 or less |

**Penalties for Late or Missed Assignments:** Failure to submit any assignment will result in a zero for that assignment (individual, team, or both). All assignments turned in during class are due at the beginning of each class period. Assignments submitted via email will be given a specific time by which the assignment needs to be received by your instructor. Submitting an assignment more than 10 minutes past the due date will result in an immediate loss of 10% of the points for that assignment. For every 24 hour time period that an assignment is late, an additional 25% will be deducted (including weekends). Emailing the late assignment to your instructor is appropriate. Late work will not be accepted after a period of 48 hours past the due date. Extensions will be provided for University-excused absences only (see above), but only in the instructor is contacted within 24 hours of the absence.

**Extra Credit:** Extra credit will be offered at the discretion of the instructor.  **If** extra credit is offered, it will be available to the entire class. No individual extra credit opportunities will **ever** be offered.

**Evacuation:** In case of a fire drill or actual emergency, collect your belongings and walk calmly to the nearest exit. We can exit the building by taking the stairs at the end of the hall on the 3th floor of the LSB and meet in the grassy area near University Ave. Do not congregate in any parking lots. When possible, class will continue after the alarm is off.

**Academic Integrity:**  The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code http://studentlife.wvu.edu/office\_of\_student\_conduct/student\_conduct\_code. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.

**Inclusivity Statement:** The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Accessibility Services (293-6700). For more information on West Virginia University's Diversity, Equity, and Inclusion initiatives, please see http://diversity.wvu.edu.

**BIOL 298A**

**Fall 2014 - Course Schedule**:

\*The instructor has the right to revise the syllabus as needed. Updated copies of the syllabus can be found through <http://ecampus.wvu.edu>.

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Date** | **In-Class Topic** | **Assignments Due/Reading Accomplished** |
| 1 | 8/18 | Introduction to Class and Syllabus | • Team Members and Rules Due (completed in-class) |
|  |  | Data Collection/Team Selection |  |
|  |  | Introduction to First Problem/Project |  |
| 2 | 8/25 | RAT Project #1 and Introduction | • Background Reading Problem #1 (completed before class) |
|  |  |  | • Survey #1 Due (competed before class) |
|  | 9/1 | **No Class (Due to Labor Day on Monday)** |  |
| 3 | 9/8 | Project #1 Team Work | • Watch TED Talk from eCampus (completed before class) |
|  |  |  | • Choice of Type Due (completed in-class) |
| 4 | 9/15 | Understanding Cell Signaling on a Molecular Level | • Define terms and read text module "Cell Signaling" (completed before class) |
|  |  |  |  |
| 5 | 9/22 | How New Drugs are Synthesized | • Molecular Pathway Due (completed before class) |
| 6 | 9/29 | Paper compilation and revision | • Rough Draft of Paper Sections Due to Team (Completed before class) |
|  |  |  | • Rough Draft of Paper to TA for Google Doc Due (completed in-class) |
| 7 | 10/6 | RAT Project #2 and Introduction | • Final Paper Due to TAs (completed before class) |
|  |  |  | • Background Reading Problem #2 (completed before class) |
|  | 10/13 | **No Class (Due to Fall Break)** |  |
| 8 | 10/20 | Project #2 Team Work | • Organism and Condition Due (completed in-class) |
| 9 | 10/27 | How to Create a Gene Map (Alignment) | • Genes Selected and File Created (completed before class) |
|  |  |  | • Gene Alignment Due (completed in-class) |
| 10 | 11/3 | How to Create a YouTube-Style Video |  |
| 11 | 11/10 | Project #2 Group Work and Video Editing |  |
| 12 | 11/17 | Project #1 Video Viewing | • Video due to TA at 4pm day before class |
|  |  | How to create a poster. | • Constructive feedback Due (completed in-class) |
|  | 11/24 | **No Class - Thanksgiving Recess** |  |
| 13 | 12/1 | Compiling Posters |  |
| 14 | 12/8 | **No Class - Final Exams Begin Later in Week** | • Final Poster Due to TA by noon on Monday (12/18) |
| **POSTER SESSION - 12/10 11am - 1pm on LSB 3rd Floor** | | | |