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| **PROGRAM INSTRUCTIONAL PLAN** |

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| PROGRAM: BIOLOGY | | DATE: 09/08/2017 |
| COURSES OFFERED THIS SEMESTER: BIOL 1308 | | # FACULTY |
| CAMPUS (ES): all campuses | FACILITIES NEEDED | |
| ADDITIONAL NECESSARY MATERIALS | | |
| SUPPLEMENTAL INSTRUCTIONAL ACTIVITIES  The Biology Program in consultation with the faculty in the department recommends the following supplemental instructional activities to be used to make up the time lost during the college closure:   * Assign Dynamic study modules from Pearson Mastering as homework before the start of chapter in class – This has lower bloom level questions and can help you cover basics of the content and you can use the class time to go over difficult concepts. * Assign Discussions and Assignments online to help connect the course content to real world scenarios. * Encourage students to use study resources such as tutoring at HCC (documented by tutoring center), study area of Pearson Mastering, etc. * If need be give some exams proctored online exams to get more class time for covering the material. * Assigned Video lectures/Open educational resources (OER) including vetted YouTube videos, Eric Simon Pearson videos etc., available on the mastering Biology site * Applied Biology Project/case study-group or individual * Movie/Ted talk/PBS screening * Book report * Attend Stem event (symposium/lecture)   Instructors will assign activities that align with the SLOs adopted by the program for each course.  The Biology Program suggests that instructors choose ONE of the supplemental instructional activities. However, instructors may choose to assign several of these activities as they see fit for their classes. | | |
| NECESSARY PROFESSIONAL DEVELOPMENT | | |
| INSTRUCTIONAL CONTENT (List Program Student Learning Outcomes and how each will be addressed within the courses offered this semester.)  **Program Student Learning Outcomes (PSLOs) for the Biology Discipline**   1. Will display an understanding of biological systems and evolutionary processes spanning all ranges of biological complexity, including atoms, molecules, genes, cells, and organisms. 2. Will integrate factual and conceptual information into an understanding of scientific data by written, oral and/or visual communication. (This may include successful completion of a course-specific research project or a case study module). 3. Will demonstrate proficiency and safe practices in the use of laboratory equipment and basic laboratory techniques. 4. Will apply principles of the scientific method to problems in biology in the collection, recording, quantitative measurement, analysis and reporting of scientific data.   **Course Student Learning Outcomes:**   1. Students will be able to explain the components of the scientific method including developing hypothesis, and its use in the interpretation of the scientific data. 2. Students will be able to describe the structure and function of macromolecules such as carbohydrates, lipids, proteins, and nucleic acids in cells. 3. Students will be able to understand and identify differences between prokaryotic and eukaryotic cells. 4. Students will be able to understand energy transformations and the metabolic reactions associated with cellular activities, such as respiration, and photosynthesis. 5. Students will be able to understand and explain cell division, DNA replication and protein synthesis in prokaryotic and eukaryotic cells. 6. Students will be able to explain principles of genetics and solve genetic problems. 7. Students will be able to understand the techniques used in biotechnology and their role in the study and manipulation of genomes. 8. Students will be able to understand evolution by natural selection, and the fundamental aspects of population genetics. | | |
| EVALUATION PROCEDURES (How will we know this has worked?)  The biology Program administers a comprehensive departmental final exam every semester for each of the courses offered in the program. The scsntron answer sheets will be collected and analyzed by the faculty. Each subcommittee will review the obtained data and discuss the results. The discussion may include comparison of the obtained data with data from past semesters. | | |
| COMMUNICATION PLAN (How will you inform all faculty, especially the program adjunct faculty, of the Program Instructional Plan?)  Faculty and adjuncts had been already informed of the ongoing process via e-mails, and were involved in the discussion to develop the Supplemental Instructional Plan. Upon approval, the plan will be shared with all faculty and adjuncts via e-mail, and will be made available on the program web page as well. | | |

Program Coordinator Signature \_\_\_ Manhal Chbat \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: 9/8/2017

Department Chair Signature \_\_\_\_\_\_Tom Loesch \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: 9/8/2017

Dean Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Jerome Drain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: 9/8/2017