**GNED 8054: Designer DNA**

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| **Topic/Title of Lesson:** Beyond Mendel |
| **Week/Unit:** Week 4 |
| **Lesson Learning Objectives:** *(What will students know or be able to do by the end of the lesson? Lesson objectives are more concrete than course learning outcomes.* | **Relevant Course Learning Outcome(s) (from Course Outline):** | **Related Essential Employability Skill(s) (from Course Outline):** |
| 1. Identify exceptions to Mendel's rules of genetics. | CLO 1 & 2 | EES 1 |
| 2. Differentiate between patterns of inheritance that follow simple genetics (Mendelian Genetics), and complex genetics (Non-Mendelian Genetics). | CLO 1 &2 | EES 4 & 5 |
| **STEPS** | **TEACHING & LEARNING ACTIVITIES** | **TIME** | **LESSON RESOURCES** |
| **OBJECTIVES:** | * State Objectives
 | **3 Min** |  |
| **INTRODUCTION:**  | * Bridge: Review Complete Dominance (previous lesson)
* Hook: Present Case Scenario that demonstrates conflicting evidence of complete dominance.
 | **10 Min** |  |
| **TOPIC 1: Incomplete Dominance** | * Lecture
* Case Scenario
 | **15 Min** | Printed Scenario Sheet |
| **TOPIC 2: Polygenic Inheritance** | * Lecture
* Eye Colour Learning Activity
* Critical Reading – HERC2 Research Paper
 | **40 Min**  | Learner access to device to complete learning activity. Printed HERC2 Research Article |
| **TOPIC 3: Co-Dominance**  | * Lecture
* Video
 | **15 Min** |  |
| **TOPIC 4: Sex-Linked Genes** | * Lecture
* Video
* Case Scenario
 | **10 Min** | Printed Scenario Sheet |
| **SUMMARY:**  | Lecture: Summary of key points | **5 Min** |  |
| **NEXT STEPS:**  | Introduce Next Topic: Genetic Disorders | **2 Min** |  |
| **ASSESSMENT:** Quiz 1, Midterm, Final Exam |