**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 | | | | |