



BETSI Leadership Institute Schedule

Day 1

- Introduction to BETSI Project & SWC Biotechnology Program
- Lecture: Polymerase Chain Reaction (PCR)
- Lab: Isolation of Cheek Cell DNA & Amplification of Human PV92 Locus by PCR

Day 2

- Teaching Biotechnology Roundtable
- Lecture: Brief History & Introduction to Recombinant DNA
- Lab: Plasmid DNA Preparation and Restriction Enzyme Digestion

Day 3

- Discussion: "Expression Constructs"
- Lab: Ligation Reaction
- Discussion: Restriction Enzyme Mapping Classroom Activity
- Lecture: Chromosomes and Karyotypes
- Lab: Preparation of Human Chromosome Spreads

Day 4

- Lecture: Introduction of Recombinant DNA into Cells
- Lab: Transformation of Bacteria
- Lecture: Genetically Modified Organisms (GMOs)
- Discussion: The pros & cons of GMOs
- Lab: Detection of Genetically Modified Foods

Day 5

- Analysis of Transformation Plates: Are you successful genetic engineers?
- Lecture: Gene Expression & Regulation
- Discussion: Ideas & animation resources for teaching gene expression
- Lecture: Proteomics
- Lab: Protein Purification

Day 6

- Lecture: DNA Sequencing Methods
- Lab Activity: DNA Sequencing

Day 7

- Lab: DNA Sequencing Analysis Using Bioinformatics

Note: Continental breakfast is provided daily. Participants are responsible for lunch.



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