

Advanced Genetic Engineering (7 days)

Module Content
Preparation of Molecular Grade Solution
Isolation of plasmid DNA from prokaryotic sample
Agarose Gel Electrophoresis and Quantification of DNA Sample
SDS-PAGE Analysis

Advanced Genetic Engineering (15 days)

Module Content
Preparation of Molecular Grade Solution
Isolation of genomic DNA from prokaryotic sample
Isolation of genomic DNA from eukaryotic sample
Isolation of plasmid DNA from prokaryotic sample
Agarose Gel Electrophoresis and Quantification of DNA Sample
SDS-PAGE Analysis

Advanced Genetic Engineering (30 days)

Module Content
Preparation of Molecular-grade solutions
Demonstration of isolation of genomic DNA from prokaryotes

Demonstration of isolation of genomic DNA from Eukaryotes (plant cells)
Isolation of plasmid DNA from prokaryotes
Agarose gel electrophoresis and quantification of molecular weight of DNA sample
PCR amplification – gene-specific
Multiplex PCR
Colony PCR
PCR Purification
Ligation
RFLP
Competent Cell Preparation and Transformation