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**COURSES BSP456 MOLECULAR
BIOLOGYLAB**

After successful completion of the course, students will be able to :

- CO 1. Perform agarose gel electrophoresis and realize its applications in biological research.
- CO 2. Isolate plasmid DNA, genomic DNA and total RNA from bacteria and other sources and determine their purity
- CO 3. Execute restriction digestion and mapping of DNA.
- CO 4. Design primers and run the PCR reaction.
- CO 5. Become skilled in gel documentation instrument (Geldoc) and image development.

- 1. Agarose gelelectrophoresis
- 2. Isolation of plasmid DNA from bacteria and its identification by electrophoresis
- 3. Isolation of genomic DNA from various sources and its identification
- 4. Restriction digestion and mapping of DNA
- 5. Isolation of total RNA from various sources and gelelectrophoresis
- 6. Design of primers and PCR
- 7. Determination of DNA/RNA purity by UV-Visible spectrophotometry
- 8. Demonstration of gel documentation and imaging

