Overview:
• Students will be introduced to the principles of forensic DNA sample analysis and new technology in next-generation sequencing and bioinformatics (developed at NCSU)
• Students will develop a next-gen DNA forensics project, collect samples and conduct analysis

Lecture Topics:
1. DNA biology and short-tandem repeats (STRs)
2. Genetics, statistics and criminal databases
3. Example DNA cases
4. Next-generation technologies
5. Applying DNA forensics in non-human samples
6. Bioinformatic analysis
7. Reporting and testimony

Labs:
1. Evidence processing, DNA extraction and quantitation  
   1 week
2. PCR enrichment and marker targeting. Development of project.  
   1 week
3. Data synthesis using next-generation sequencing  
   1 week
4. Data interpretation, profile matching, and databases  
   1 week
5. Solving a case with DNA evidence: team project  
   2 weeks
6. Presenting your case  
   1 week