Course number : HS 545
Course Name : **Applied Forensic Psychology**
Credit Distribution : *3-0-2-4*
Intended for : **B.Tech/Masters/PhD**
Prerequisite : Basic Knowledge of Psychology and cognitive processes (Advised to enroll for Introduction to Psychology (HS252) course before joining this course), or Consent of the Instructor.

Mutual Exclusion : None

1. Preamble:

This course is meant for those with an inherent interest in psychology and/or criminal investigation. It aims to develop scientific understanding of the aetiology of crime scene and recent psychological and neuropsychological techniques used for understanding of criminal behaviour. It would be helpful to aspiring engineers as they can synthesise their knowledge of engineering with psychological and legal understanding in developing gadgets and tools to investigate criminal behaviour.

The course will have lectures and practical demonstration of Forensic Neuropsychology techniques used for testing suspects and accused persons, such as polygraph, electroencephalography, eye tracking, Galvanic skin conductance responses, heart rate, etc. Changing concepts of crime and crime scenarios will be discussed. The merits and disadvantages of these techniques will also be discussed in detail. This course covers all the core areas of forensic psychology, with a particular focus on applying theory, content and knowledge to eyewitness testimony.

Under the broader umbrella of forensic science, the emphasis of this course will be on eyewitness testimony that remains a critical component of criminal investigations. Psychological research has revealed dangers of relying on this testimony because of the cognitive constructive and reconstructive processes at work while storing information, and how careful the police must be when questioning witnesses. Using case files from police investigation, this course would deeply explore the psychology of eyewitness testimony. The students would get chance to test their own cognitive skills and see if their investigative powers are as good as police officers.

2. Course Modules with quantitative lecture hours:

Module 1: Overview of Forensic and Criminal Psychology **(8 hours)**
- Forensic Psychology: Major areas, Scope, State of art
- Role of Forensic psychologist: Educational and certification requirements
- Theories of crime:
- Lombroso approach to understand crime, its causes and remedies
- Moral reasoning Theory
- Social information-processing Theory
- Developmental and psychological theories of offendin
- Developmental propensity theory
- Propensity Theory
- Social learning Theory
- Lifestyle Theory

- Integrated Cognitive Antisocial Potential theory
- Recent Psychological research and police investigations: Does the research meet the needs? Victims of crime

Module 2: Eyewitness testimony   (6 hours)
- Eyewitness testimony as a central issue in criminal and forensic psychology
- Accuracy of the witness evidence: Role of System and Estimator variables
- Eyewitness evidence in courts
- Children as witnesses
- Factors that lead to criminal behaviour, criminal profiling
- Scope for psychological assessments of suspects for facilitating understanding of the crime committed

Module 3: Witness memory: encoding, storage and retrieval factors   (6 hours)
- Mistaken identity
- Perceiving event
- Retaining information in memory and retrieving the same Inattentional blindness

Module 4: Visual Identification   (6 hours)
- Perceiving events
- Recognizing people and facial recognition
- Individual differences in eyewitness testimony

Module 5: Profile Analysis: (6 hours)
- The origin of offender's profile
- The process of police investigation
- Type of profiling: Inductive and deductive
- Profiling and personality
- What research speaks about profiling: whether it works?

Module 6: Lies, Lie detecting and act of deception: Technological and non-technological involvement (6 hours)
- Brain development and the parts of the brain underpinning social and antisocial behaviours
- Ekman's theory of lie detection
- Improving lie detection hit rates: Cognitive overload
- The strategic use of evidence technique
    - The polygraph process and its validity, Alternatives to the polygraph
    - Layered Voice Analysis (LVA)
    - Suspect Detection System (SDS)
    - Brain Electrical Oscillations Signature (BEOS)
    - Gait analysis
    - Handwriting analysis
    - Use of Eye tracker and electroencephalograph in investigations
    - Non-technological forensic assessments/investigations: MMPI, PCL-R, TAT, Expert testimony

Module 6: Interviewing/interrogating witnesses and suspects   (8 hours)
- Methods of interviewing witnesses and suspects:
- Cognitive interview
- Interviewing assailable witnesses such as children, elderly people and people with intellectual disability

- Working with the courts: Judicial processes
- Presentation of evidences in courts
- Judges as decision makers
- Advice for expert witnesses
- Case studies of criminals with concluding judgments and convictions

Laboratory/practical/tutorial Modules: (**10 hours**)

Laboratory and practical sessions will be distributed into different modules (module, 2, 3, 4, 5 and 6). Students will be introduced to some of the forensic assessment tools, such as Rorschach Ink Blot, Personality Big-5, Psychopathic Checklist-Revised (PSL-R), Minnesota Multiple Personality Inventory-3, Electroencephalography, Thematic Apperception Test, Galvenic skin conductance etc. Additionally, expert testimony will also be included in the syllabus.

Part 1: Personality test introduction and administration (paper-pencil based)

Part 2: Electroencephalography and Galvanic skin conductance/lie detection tools introduction and administration

Part 3: Field work, visiting police stations, courts interacting with police personnel and people in judiciary system to know the nature of criminal investigation and proceedings

3. **Text books:**
   I. Graham. M. Davies and Anthony R. Beech, *Forensic psychology: Crime, justice, law, interventions*. 3rd Edition, John Wiley & Sons, West Sussex, United Kingdom, 2018.
4. Curt R. Bartol and Anne M. Bartol, Introduction to Forensic Psychology, 5th Edition, Sage Publication, Thousand Oaks, California, 2018.**References:**
   I. Mickes, L. (2015). Receiver operating characteristic analysis and confidence-accuracy characteristic analysis in investigations of system variables and estimator variables that affect eyewitness memory. *Journal of Applied Research in Memory and Cognition, 4*, 93-102.
   II. Sridhar Ramamurty, David E. Morrison III, Joseph W. Koletar and Kelly R. Pope, *A.B.C.'s of Behavioral Forensics: Applying Psychology to financial fraud and detection,* John Wiley & Sons, Hoboken, New Jersey, 2013.
   III. Philip H. Melanson, *The Murkin Conspiracy: An Investigation into the Assassination of Dr. Martin Luther King Jr.,* Praeger Publication, New York, USA, 1989. Dennis Howitt, *Introduction to forensic and criminal psychology*. 6th Edition, Pearson Education, London, United Kingdom, 2006.
   IV. Lombroso, C., *Crime, its causes and remedies* (Vol. 3). The University Press, Cambridge, USA, 1911
   V. Elizabeth F. Loftus, *Eyewitness Testimony,* Harvard University Press, London, United Kingdom, 1979

5. **Similarity with the existing courses:**
   (Similarity content is declared as per the number of lecture hours on similar topics)

S. No.		Course Code	Similarity Content	Approx. % of Content
1.		None	NA	NA

6. Justification of new course proposal if cumulative similarity content is >30%:
NA