

**TEXAS FORENSIC SCIENCE COMMISSION GENERAL FORENSIC ANALYST
LICENSING EXAMINATION II (GFALE II)
PILOT EXAMINATION CONTENT SYLLABUS**

A. Exam Domains

The forensic analyst licensing exam is comprised of seven domains. These seven domains were chosen due to their general application across all disciplines. The domains are as follows:

- 1. Evidence Handling**
- 2. *Brady/Michael Morton Act***
- 3. Basic Statistics for Forensic Application**
- 4. Expert Testimony**
- 5. Professional Responsibility**
- 6. Human Factors**
- 7. Root Cause Analysis**

The exam consists of 120 multiple choice questions. The appropriate cut-off/passing score will be determined by the Commission's contracted psychometricians and is based on the overall results of pilot participants.

Participants MUST have their own laptop that has video camera capabilities to take the exam. Participants must bring their laptop to the examination room on exam day. Participants will be emailed instructions for installing exam software in the weeks prior to the exam. The examination is administered on your computer or laptop and is recorded using an exam security software through a Blackboard platform set up specifically for the exam.

B. Syllabus for Exam Preparation

The readings and videos listed in the Licensing Exam Bibliography are designed to prepare examinees for the exam and provide a broad knowledge base for the topics covered. All questions are either recall regarding concepts described in the materials, or application wherein factual scenarios are posed, and application of knowledge gleaned from the materials must be applied to that scenario. Study of any materials outside those provided in TopClass is not required.

Exam questions assess examinees' ability to understand and apply the concepts described in the seven domains below. When studying the material in TopClass pay particular attention to the list and focus on the subject areas listed below.

1) Domain I: Evidence Handling

- a) Basic definitions and foundational principles in evidence handling and forensic science.
- b) Importance of and practices used for contamination prevention, both between evidence items and by the forensic analyst.
- c) Proper evidence procedures of handling biological and non-biological evidence to prevent or minimize the possible loss or deleterious change of all evidentiary items.
- d) Purpose of chemical hygiene plans and information included in these plans.
- e) Importance of safety in a laboratory setting and demonstration of knowledge of personal protective equipment (PPE) and basic laboratory safety practices.
- f) Purpose, importance, and key components of "chain of custody."

- g) Importance of proper evidence packaging and storage as it relates to the preservation of evidence (including knowledge of best practices for storing different types of evidence) and acceptable handling practices for evidence that is not properly packaged or stored.

2) Domain II: *Brady* and the Michael Morton Act (MMA)

- a) Disclosure obligations of analysts and laboratories to criminal justice stakeholders under 39.14 of the Texas Code of Criminal Procedure.
- b) State's role in the criminal justice system including obligations of disclosure.
- c) Implications of failure to disclose as it relates to a particular case, to scientist credibility, and to the forensic discipline at issue.
- d) Application of relevant provisions to both person-specific and quality process disclosures.
- e) Terminology related to disclosure requirements including, but not limited to, materiality, exculpatory, inculpatory, discovery, Michael Morton Act, exoneration, and good faith.
- f) Ability to answer questions regarding the main legal conclusions of key court cases involving disclosure that are discussed in the reading material.
- g) Ability to recall and apply examples of hypothetical disclosure scenarios.
- h) Ability to understand and recall the timing requirements for disclosure.

3) Domain III: Basic Statistics for Forensic Application

- a) Types of studies that produce valid and repeatable findings.
- b) Key measurement concepts including sources of measurement error and their impact on reliability and validity.
- c) Sampling theories to interpret and describe sample statistics and error.
- d) Statistical meanings of concepts such as validity, bias, and repeatability.
- e) Statistical concepts including, but not limited to standard error, standard deviation, confidence interval, significance level, likelihood ratio, probability, conditional probability, Bayes' theorem, and odds.
- f) Basic concepts regarding uncertainty of measurement.
- g) Use of probability to explain the weight of evidence.

4) Domain IV: Expert Testimony

- a) Roles and responsibilities of courtroom participants.
- b) Expected demeanor and actions of an expert witness.
- c) Court rulings that impact admissibility of forensic evidence in legal proceedings.
- d) Terminology associated with legal proceedings and related concepts.
- e) How an expert witnesses should maintain the limits of their expertise while on the witness stand and correct inaccurate portrayals of their testimony/evidence by others.
- f) How to manage questioning regarding prior mistakes.
- g) Direct and cross examination, and how to handle issues that arise after testimony.

5) Domain V: Professional Responsibility

- a) Key professional responsibilities of members of the forensic analyst profession.
- b) Potential pitfalls and professional responsibility issues that may arise in the laboratory.
- c) Potential pitfalls and professional responsibility issues that may arise when interacting with other criminal justice stakeholders.
- d) Importance of proper representation of qualifications.

- e) Impact of professional misconduct including basic understanding of key Texas cases and/or Commission investigations covering professional misconduct by an analyst as provided in the reading material.
- f) Requirements under Texas law to report crime laboratory irregularities and to whom those responsibilities attach.
- g) Ability to recall key concepts in the Texas Code of Professional Conduct for Analysts and Crime Laboratories.
- h) Management's responsibilities to provide a quality culture that embraces transparency and disclosure.

6) Domain VI: Human Factors

- a) Types and importance of cognitive bias and how it relates to forensic science.
- b) Factors that can introduce cognitive bias into a system.
- c) Difference between task-relevant and task-irrelevant information.
- d) Methods a laboratory may use to safeguard against cognitive bias.
- e) How bias may impact experts when communicating in and out of court.
- f) Terminology including, but not limited to, the following: base-rate expectations, task-relevant, task-irrelevant, blinding, suspect-driven bias, adversarial system, inappropriate influence and linear sequential unmasking.

7) Domain VII: Root Cause Analysis

- a) The concept of “just culture” and its application to forensic laboratories.
- b) The concept of “continuous improvement” and its application to forensic laboratories.
- c) The value and core components of a quality management system.
- d) The purpose and importance of a root cause analysis.
- e) The steps in and qualities of an acceptable root cause analysis protocol.
- f) Various methods and tools for performing root cause analysis.
- g) The purpose of corrective and preventative actions and the importance of evaluating their effectiveness.