TEXAS FORENSIC SCIENCE COMMISSION GENERAL FORENSIC ANALYST LICENSING EXAMINATION II (GFALE II)
EXAMINATION CONTENT, SCORING AND SYLLABUS

A. Exam Domains

The forensic analyst licensing exam is comprised of 7 domains. These 7 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**

GFALE II FORENSIC ANALYST FULL EXAMINATION

The full General Forensic Analyst Licensing Examination II consists of 110 multiple choice questions. 100 of the questions are scored. 10 are unscored, piloted questions for future examinations.

For a passing score on the General Forensic Analyst Licensing Examination II, an examinee must answer 70/100 of the scored questions correctly. In addition to the 70% cut score, the chart below shows the minimum number of questions an examinee must answer correct in each domain to achieve a passing score.

Domain	Total Number of Questions/Possible Points	Minimum Number of Questions Correct
Evidence Handling	14	5
Brady/MMA	14	5
Statistics	15	4
Expert Testimony	14	5
Professional Responsibilities	14	5
Root Cause Analysis	14	5
Human Factors	15	4

GFALE II FORENSIC TECHNICIAN EXAMINATION

The Commission's Forensic Technician Licensing Examination II is comprised of 5 domains chosen due to their general applicability across technician practitioners. The 5 domains are listed in the chart below. Technicians must answer 35 out of 50 questions on the exam correctly. In addition to the 70% cut score, the chart below shows the minimum number of questions an examinee must answer correctly in each domain to achieve a passing score.

Domain	Total Number of Questions/Possible Points	Minimum Number of Questions Correct
Technician Examination	**50**	**35**
Evidence Handling	14	5
Brady/MMA	9	3
Professional Responsibilities	9	3
Root Cause Analysis	9	3
Human Factors	9	2

GFALE II MODIFIED/TRANSITION EXAMINATION

The Commission administers a Modified GFALE II for Forensic Analysts transitioning from Technician to Analyst licensure who have already taken and passed the Forensic Technician Licensing Examination II. Scoring for the Modified GFALE II is as follows:

Domain	Total Number of Questions/Possible Points	Minimum Number of Questions Correct
Modified Analyst Examination	**28**	**19**
Statistics	14	4
Expert Testimony	14	5

B. Syllabus for Exam Preparation

The readings and videos listed in the licensing exam bibliography are designed to prepare examinees for the exam domains 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 Blackboard 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 Blackboard 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) Receiving, documenting, storing, and retrieving evidence.
c) Importance of and practices used for contamination prevention, both between evidence items and by the forensic analyst.
d) Proper evidence procedures for handling biological and non-biological evidence to prevent or minimize the possible loss or deleterious change of all evidentiary items.
e) Purpose, importance, and key components of "chain of custody".
f) Importance of proper evidence packaging and storage as it relates to the preservation of evidence (including knowledge of best practices for storing, labeling, and documenting different types of evidence) and acceptable handling practices for evidence that is not properly packaged or stored.

g) Examining and preparing items that are or may become involved in criminal or civil litigation.

2) Domain II: Brady and 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 video or video transcript and the *Watkins* key facts summary.
g) Ability to apply examples of hypothetical disclosure scenarios.
h) Ability to understand the general timing requirements for disclosure, including when the obligation for disclosure ends (or does not end).

3) Domain III: Basic Statistics for Forensic Application

a) Be able to identify and apply basic statistical concepts such as validity, bias, repeatability, and reproducibility.
b) Understand and apply basic statistical concepts such as mean, median, and mode to data set.
c) Understand the guiding principles of scientific inquiry.
d) Understand and apply definitions of statistical concepts, including but not limited to: standard error, standard deviation, confidence interval, significance level, likelihood ratio, probability distribution (including different types), conditional probability, how probability is used to explain the weight of evidence, Bayes' theorem, and odds.
e) Basic concepts regarding uncertainty of measurement, including identification of the source of uncertainty.
f) Understand and apply different statistical approaches to expert assessment of forensic evidence.

4) Domain IV: Expert Testimony

a) Knowledge of major court rulings/conclusions that impact admissibility of forensic evidence in legal proceedings today.
b) Understand terminology associated with legal proceedings and related concepts.
c) Understand how expert witnesses should maintain the limits of their expertise while on the witness stand and correct inaccurate portrayals of their testimony/evidence by others and how to manage questions regarding prior mistakes.
d) Understand who has the burden of proof for scientific expert testimony admissibility.
e) Understand the judge's role in determining admissibility of expert testimony.
f) Understand concepts of expert testimony versus fact witnesses.
g) Direct and cross examination and how to handle issues that arise after testimony.
h) Understand history of outdated testimony and conclusions from studies regarding expressing limitations of forensic science.

5) **Domain V: Professional Responsibility**
   a) Potential pitfalls and professional responsibility issues that may arise in the laboratory or when interacting with other criminal justice stakeholders.
   b) Importance of proper representation of qualifications.
   c) Disciplinary actions and limitations on disciplinary actions by the Forensic Science Commission.
   d) Conflicts of interest.
   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.