

# RON SMITH AND ASSOCIATES, INC.

## SCIENTIFIC ANALYSIS: FROM THE LABORATORY TO THE WITNESS STAND



**Class Instructor:**  
**Michele Triplett, CLPE**

**5 Day Course**

**40 Training Hours**

**\$600.00 Tuition**

**This course is approved  
for IAI certification and  
recertification purposes**



**RS&A recommends  
taking our classes in  
order of our Sequential  
Training Curriculum**

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SEQUENTIAL TRAINING  
CURRICULUM**



### CLASS LEVEL

Basic, Intermediate and Advanced

### FORMAT

Lecture, Discussion, Practical Exercises (written and verbal), Tests (written and verbal)

### INTRODUCTION

This course can benefit forensic practitioners, trainers, managers seeking improvement, or attorneys needing to understand forensic concepts. Knowledge of basic scientific principles can improve understanding, application, training programs and standard operating procedures resulting in solid conclusions that adhere to judicial admissibility criteria.

This five day course will explore and explain basic scientific principles as they pertain to pattern evidence examinations, comparisons, conclusions and testimony. Although the primary forensic discipline addressed will be friction ridge analysis, the majority of the instruction will be equally relevant to other pattern evidence disciplines.

Practical exercises are designed to show the benefits of questioning information over accepting information as a means of strengthening conclusions. For an expert witness to be able to convey the scientific reasoning behind their conclusion, they must fully understand it themselves. Opinions without justification no longer meet the needs of the court and this course is designed to bridge the gap between what has been common practice in the past and what is now required in the post-Daubert environment.

### COURSE OBJECTIVE

The objective of this course is to provide each participant with an increased understanding of scientific principles and how to apply those principles to the examination process. Understanding this information will simplify testimony because science provides the answers to the most difficult questions (How much is enough? How do you diminish bias? When is blind verification valuable? How much documentation is needed?).

Scientific principles have been refined throughout the centuries to aid in arriving at the strongest possible conclusions. After completing this course students will understand the advantages of using scientific principles over personal judgments. Students will be able to arrive at and present conclusions that are based on observable data that withstand the scrutiny of others. Students will be able to provide solid, supportable conclusions without overstating results. Upon successful completion of this course, the student will be able to:

- Understand scientific protocols for different types of sciences (pure, exact, hard, applied, etc.)
- Understand and apply scientific protocols during the comparison and verification process
- Understand and utilize scientific terminology correctly (theory, valid, proof, possible, plausible, objective, etc.)
- Testify within the requirements of science
- Testify within the legal requirements for expert witnesses
- Testify accurately without overstating conclusions
- Understand the value of questioning ideas as a means of improving and strengthening conclusions

### PRACTICAL EXERCISES/TESTS

Group activities are designed to develop and strengthen critical thinking and reasoning skills. Comparison exercises are designed to challenge previous held or personal beliefs in favor of supportable conclusions. The ability to explain scientific concepts will be tested verbally as preparation for testimony. A final examine will test the understanding of scientific concepts as they pertain to friction ridge examination.

### REFERENCES

History of Science  
State Admissibility Requirements  
Federal Rules of Evidence  
Authoritative Committees: IAI Resolutions / SWGFAST / NAS REPORT / OSAC / NCFS / PCAST  
Court Cases  
Errors within the Fingerprint Discipline

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### DAILY SCHEDULE

	Day 1	Day 2	Day 3	Day 4 - Testimony	Day 5 - Testimony
Hour 1	Registration Course Overview Introductions	Review/Scrutiny	Admissibility Criteria Significant Cases NAS	Review/ Expert/Role of Expert	Attorney Tactics
Hour 2	What is science Different types of sciences	<u>Practical Exercises</u> on scrutiny	Critics/Objectivity/ Subjectivity/ Bias	Expert/Role of Expert	Exhibits
Hour 3	History/Goals <u>Exercise:</u> Basic Protocols of Science		<u>Practical Exercise:</u> Documentation Possible Conclusions	Non-Verbal Communication/CV- Dress-Body Lang.	Terminology
Hour 4	Methods Laws Theories		<u>Practical Exercise:</u> Errors	Verbal Communication	Qualifying Questions
Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
Hour 5	Support behind methods laws and theories	<u>Practical Exercises</u> Comparisons	Statistics Organizations	Pre-trial	Basic Questions/Challenging Questions
Hour 6	Methodology/Scientific Requirement for Sufficiency		Easy attacks Research Studies	Court Rules/Admissibility Requirements	Preparing for a Motion to Exclude
Hour 7	<u>Practical Exercise:</u> Specific Protocols		<u>Practical Exercise:</u> QA Measures Diminishing Bias		<u>Practical Exercise:</u> Difficult Testimony Questions
Hour 8	Sources for protocols			Cases Excluding Evid/limiting testimony/ Overturned cases	Questions Test Certificates

### HOST A CLASS

If you would like to host this course the following items are needed: Preferred seating is in groups of 6 people with chairs and tables. Power Point projector Speakers for the power point One flip chart for each group of 6 people Marking pens for flip chart

### I.A.I. APPROVED TRAINING HOURS

This course provides 40 training hours and is approved for IAI Certification and re-certification.

