



**South Africa Chapter**

**Association of Certified Fraud  
Examiners**

***Voice Stress Detection (VSD)***

# ACFE SA Forensic Standards

## Introduction: The Forensic Standard Forum

The aim of the Forensic Standard Forum under the auspices of the ACFE SA is to standardise scientific methodologies employed in the course of forensic investigations, which are carried out in conjunction with criminal or civil legislation. Such investigations include almost all disciplines and practices involved.

It is instrumental to lead the way in terms of setting standards in all the disciplines of forensics applied during any given investigation and although there are well known and international standards in most of the disciplines, some changes may be required in order to address the situation in South Africa and Africa in the context of our own environments and applicable legislation and/or legal systems and frameworks.

Forensic scientists and criminal investigators need to be guided with acceptable standards and procedures for carrying out such examinations. Although the ACFE refers to “certified fraud examiners” it recognises the fact that a strong association exists with forensic examiners and practitioners. All forensic disciplines will accordingly be included in the Forensic Standard Forum.

## The ACFE SA Chapter: Background:

The need to raise the standard of fraud examination in South Africa and for a professional body which was not limited to a specific profession such as accounting or law resulted in the establishment of a local chapter with the mission to provide a community environment in which local forensic examination practitioners can associate. Local membership provides a number of benefits including a network of experienced professionals; a training framework for practitioners with "how to" guidance technical updates and ethical standards; regular discussion forums on issues relevant to the local environment; annual workshops on fraud examinations; and a video library with case studies. This chapter is a collection of individuals in South Africa from all industries and professionals, who all have a single goal mind; the reduction of white-collar crime in South Africa.

## ACFE Professional Standards– [www.acfesa.co.za](http://www.acfesa.co.za)

### *1. The preamble of the ACFE SA*

The Association of Certified Fraud Examiners is an association of professionals committed to performing at the highest level of ethical conduct. Members of the Association pledge themselves to act with integrity and to perform their work in a professional manner.

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Members have a professional responsibility to their clients, to the public interest and each other; a responsibility that requires subordinating self-interest to the interests of those served.

These standards express basic principles of ethical behaviour to guide members in the fulfilling of their duties and obligations. By following these standards, all Certified Fraud Examiners shall be expected, and all Associate members shall strive to demonstrate their commitment to excellence in service and professional conduct.

### ***II. Applicability of Code***

The CFE Code of Professional Standards shall apply to all members and all Associate members of the Association of Certified Fraud Examiners. The use of the word “member” or “members” in this Code shall refer to Associate members as well as regular members of the Association of Certified Fraud Examiners.

### ***III. Standards of Professional Conduct***

#### ***A. Integrity and Objectivity***

1. Members shall conduct themselves with integrity, knowing that public trust is founded on integrity. Members shall not sacrifice integrity to serve the client, their employer or the public interest.
2. Prior to accepting the fraud examination, members shall investigate for potential conflicts of interest. Members shall disclose any potential conflicts of interest to prospective clients who retain them or their employer.
3. Members shall maintain objectivity in discharging their professional responsibilities within the scope of the engagement.
4. Members shall not commit discreditable acts and shall always conduct themselves in the best interests of the reputation of the profession.
5. Members shall not knowingly make a false statement when testifying in a court of law or other dispute resolution forum. Members shall comply with lawful orders of the courts or other dispute resolution bodies. Members shall not commit criminal acts or knowingly induce others to do so.

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## ***B. Professional Competence***

1. Members shall be competent and shall not accept assignments where this competence is lacking. In some circumstances, it may be possible to meet the requirement for professional competence by use of consultation or referral.
2. Members shall maintain the minimum program of continuing professional education required by the Association of Certified Fraud Examiners. A commitment to professionalism combining education and experience shall continue throughout the member's professional career. Members shall continually strive to increase the competence and effectiveness of their professional services.

## ***C. Due Professional Care***

1. Members shall exercise due professional care in the performance of their services. Due professional care requires diligence, critical analysis and professional scepticism in discharging professional responsibilities.
2. Conclusions shall be supported with evidence that is relevant, competent and sufficient.
3. Members' professional services shall be adequately planned. Planning controls the performance of a fraud examination from inception through completion and involves developing strategies and objectives for performing the services.
4. Work performed by assistants on a fraud examination shall be adequately supervised. The extent of supervision required varies depending on the complexities of the work and the qualifications of the assistants.

## ***D. Understanding with Client or Employer***

1. At the beginning of a fraud examination, members shall reach an understanding with those retaining them (client or employer) about the scope and limitations of the fraud examination and the responsibilities of all parties involved.
2. Whenever the scope or limitations of a fraud examination or the responsibilities of the parties change significantly, a new understanding shall be reached with the client or employer.

## ***E. Communication with Client or Employer***

1. Members shall communicate to those who retained them (client or employer) significant findings made during the normal course of the fraud examination.

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## ***F. Confidentiality***

1. Members shall not disclose confidential or privileged information obtained during the course of the fraud examination without the express permission of proper authority or order of a court. This requirement does not preclude professional practice or investigative body reviews as long as the reviewing organization agrees to abide by the confidentiality restrictions.

## ***IV. Standards of Examination***

### ***A. Fraud Examinations***

1. Fraud examinations shall be conducted in a legal, professional and thorough manner. The fraud examiner's objective shall be to obtain evidence and information that is complete, reliable and relevant.
2. Members shall establish predication and scope priorities at the outset of a fraud examination and continuously re-evaluate them as the examination proceeds. Members shall strive for efficiency in their examination.
3. Members shall be alert to the possibility of conjecture, unsubstantiated opinion and bias of witnesses and others. Members shall consider both exculpatory and inculpatory evidence.

### ***B. Evidence***

1. Members shall endeavour to establish effective control and management procedures for documents. Members shall be cognizant of the chain of custody including origin, possession and disposition of relevant evidence and material. Members shall strive to preserve the integrity of relevant evidence and material.
2. Members' work product may vary with the circumstances of each fraud examination. The extent of documentation shall be subject to the needs and objectives of the client or employer.

## ***v. Standards of Reporting***

### ***A. General***

1. Members' reports may be oral or written, including fact witness and/or expert witness testimony, and may take many different forms. There is no single structure or format that is prescribed for a member's report; however, the report should not be misleading.

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### *B. Report Content*

1. Members' reports shall contain only information based on data that are sufficient and relevant to support the facts, conclusions, opinions and/or recommendations related to the fraud examination. The report shall be confined to subject matter, principles and methodologies within the member's area of knowledge, skill, experience, training or education.
2. No opinion shall be expressed regarding the legal guilt or innocence of any person or party.

### **ACFE CODE OF ETHICS**

All Certified Fraud Examiners must meet the rigorous criteria for admission to the Association of Certified Fraud Examiners. Thereafter, they must exemplify the highest moral and ethical standards and must agree to abide by the bylaws of the ACFE and the Certified Fraud Examiner Code of Professional Ethics.

- An ACFE Member shall, at all times, demonstrate a commitment to professionalism and diligence in the performance of his or her duties.
- An ACFE Member shall not engage in any illegal or unethical conduct or any activity which would constitute a conflict of interest.
- An ACFE Member shall, always, exhibit the highest level of integrity in the performance of all professional assignments and will accept only assignments for which there is a reasonable expectation that the assignment will be completed with professional competence.
- An ACFE Member will comply with lawful orders of the courts and will testify to matters truthfully and without bias or prejudice.
- An ACFE Member, in conducting examinations, will obtain evidence or other documentation to establish a reasonable basis for any opinion rendered. No opinion shall be expressed regarding the guilt or innocence of any person or party.

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- An ACFE Member shall not reveal any confidential information obtained during a professional engagement without proper authorization.
  
- An ACFE Member will reveal all material matters discovered during an examination which, if omitted, could cause a distortion of the facts.
  
- An ACFE Member shall continually strive to increase the competence and effectiveness of professional services performed under his or her direction.

### Forensic Standard Forum

The list of forensic science standards guidelines needs to be dictated to by discipline-specific specialists. To assist members of the forum to implement standards, qualification and ethics, it would be beneficial to standardise the input required in order to build the framework across all disciplines.

<b>Forensic discipline/title</b>	Voice Stress Detection
<b>ACFE SA</b>	<p><b>Jan Potgieter</b></p> <p><b>Clifton Coetzee</b></p> <p><b>Kobus Swart</b></p> <p><b>Jaco de Jager - ACFE SA CEO</b></p> <p><b>De Wet Ferreira - Chairman of the ACFE SA Forensic Industry Standard Forum</b></p>
<b>Describe the forensic discipline Application (Nationally and Internationally)</b>	<p>The purpose and application of this discipline are to serve as an Investigative Tool. The objective being to objectively determine the true facts of a matter under investigation as well the integrity of the examinee. Communication skills are required to interview, record and apply Voice Stress Detection technology to analyse verbal responses to questions posed. The application of the Tool is deemed to determine the truthfulness of verbal statements made to Investigators and/or Business Management.</p> <p>The application serves as an aid to investigators and or</p>

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	Human Resource managers to determine the integrity of the examinee as well as the veracity of statements made National and Internationally.
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### Legal

- Act 108/ 1996 Constitution RSA and in particular;
- Act 51 /1977: Criminal Procedure act: All aspects and sections regulating the administration of the
- Criminal Justice System in the RSA.
- South African Labour Law
- Prevention of Corruption Act: 12/2004
- Human Rights Commission Act 56/1996
- Regulation of interception of communication and provision of communication-related information Act 70/2002
- King IV, for ethical leadership and good corporate governance.
- Labour Relations Act

### Ethics in Administration –

**It is mandatory that every Examiner abide by the ACFE Code of Ethics and in addition the following;**

- All 'subjects' [persons subjected to assessment] experience trauma and stress. Subjects are to be treated in a humane and dignified manner.
- No 'subject' may be deprived of the right to refuse to undergo assessment.
- During the decision-making, Corporate Business utilizing the services often relies on findings by the Examiner. It is therefore of the utmost importance that clients be properly briefed and enlightened regarding the processes and the limitations of the application.
- No Examiner may allow himself/herself or the discipline to be used as a 'bullying- tactic' by employers.
- Since negative reports may severally tarnish people's reputations, extreme care must be taken to obtain accurate results
- Strict Confidentiality regarding findings must be maintained. The findings of the



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voice stress integrity assessment may only be disseminated to specifically authorized persons.

- It is imperative that the Examiner safeguard, reports recordings and other working- documents to prevent that confidential information contained therein become known to unauthorised persons.
- Examiners must always remain impartial and perform assessments to the best of their ability to ensure accurate findings and to convey these in writing to the client and furthermore be available to discuss the findings with the client.
- Examiners are obliged to inform the client and discuss any discovered business system and control weaknesses relevant or irrelevant to the present circumstances which had come to the attention of the Examiner whilst conducting interviews.
- Timely finalisation of Truth Verification Assessment reports.
- Examiners must be aware of their own personal limitations and allow themselves sufficient time to render professional service and not be rushed for time to produce quick and possible erroneous results.
- In the interest of this discipline and clients that Examiners, seek the assistance of equally qualified associates to verify findings.
- It is advisable/recommended for an Examiner not to denigrate similar systems or fellow Examiners. Should complaints of poor and unprofessional conduct come to notice, a detailed report in writing must be submitted to the ACFE SA, should it be a member and the authority that issued the Examiner a certificate of competence.
- Examiners must execute all functions or instruction in accordance with all relevant laws and to promote public confidence in the application of this discipline.
- Preparedness to testify in any disciplinary/ criminal/ civil judicial proceedings.

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### Voice Stress Detection Education and Training: Training material/modules/qualifications to be specified, if exist.

Knowledge in procedures and presenting evidence and findings during judicial proceedings.  
[South African Law Of Evidence- Hoffman & Zeffert]

Knowledge of report writing, affidavit drafting, and testifying.

Certified and trained by an Instructor who is approved by the manufacturer of the VSD technology utilised.

Microtremor VSD training is approved and certified through an accreditation process by the manufacturer of the technology utilised and/or a relevant South African control association. The preparation to become a Voice Stress Examiner includes an intensive basic course, during which the relevant VSD Physiology is presented. The Examiner will be systematically trained in the uses of the instruments and software. Only scientifically validated Testing protocols are utilised. Extensive practice sessions on reading VSD signatures of the particular technology [voice charts] are **conducted with regard to manual digital** VSD systems. A final examination is administered to measure achievement in understanding and proficiency in the material presented.”

Sound knowledge of interviewing, investigation interview techniques and the physiological stress indicators of the human body. Training and utilising reliable and accurate electronic technical equipment.

**Minimum Knowledge and skills – The minimum criteria in terms of Formal education, technical and legal certification as well as experience required in the specific forensic discipline. Note any additional specific special requirements for the specific forensic discipline.**

Competency Certification must be conducted by approved and appointed training officials of the institution.

Basic computer literacy.

Interviewing suspects and witnesses.

Interviewing potential candidates during pre-employment

sessions Interviewing employees post-employment sessions

Compiling reports and

affidavits Testifying.

Well-developed and strong analytical skills

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The generally accepted practice in the use of microtremor VSD is to follow the methodology of polygraphy, with regards to Question Constructs, Pre-Test, In-Test and Post Test methodologies.

- Detailed briefing by Client. Understanding the mandate and focal point of the client's request. Explain the processes, legality methodology and technology
- Choice and Preparation protocol questionnaires. [general veracity; pre-employment; post-employment and suspect activity]
- Interview subject. Explain procedure; avoiding imputing stress on the subject person and adhering to set procedures. [Manuals]
- Refrain from commenting or speculating about the subject's veracity prior to tabling analysis results.
- Accurate analysis of responses to all questions posed during the interview.
- When required obtain a second opinion regarding the accuracy of the analysis.
- Timeous submission of written reports.
- Adherence and Compliance with the relevant Licensee Agreements.
- Utilisation of suitable computer hardware and Software as prescribed by the manufacturer of the technology being utilised.
- Compliance with Business ethics and all appropriate legislation.

ACFE SA membership [Affiliation or CFE] and alignment to its Code of Conduct.

Ensure that Examiners are adequately trained and be in possession of a competency certificate. Certification by the manufacturer and or his/her appointed representative with a proven track record of honesty and professionalism. Registration and trade in accordance with the Companies Act [RSA] or other applicable legislation.

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	<b>Glossary of Terminology applicable</b>
INC	Inconclusive (No Decision Reached)
RQ	Relevant Issue Question
CQ	Comparison Question (Used as a weighting system to score RQ's)
Methodology	Methods and techniques that have been scientifically validated and peer-reviewed.
Pre-Test Phase	An interview conducted prior to the In-Test phase used to establish the 'psychological set' in the examinee
In-Test Phase	The conducting of the question and answer session, during which time the examinee responses are captured.
Post-Test	An interview session which may be conducted subsequent

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Phase	to the In-Test phase.
Voice Signature	The spectrograph and/or voice graphic displayed by the technology being utilised.
SV	Stress Value of any specific voice signature.
Score	Singular or globular scores produced by the Examiner and/or the technology utilised.
Examination	The administration of one or more VSD chart runs, subject to a minimum two charts. Conclusion
Chart	A single question/answer testing run.
Conclusion	The decision rendered by the Examiner after review of all test data.
QC	Quality Control. Decisions that have been reviewed by a colleague or other suitably qualified VSD Examiner.
Test Data	Voice signatures, Stress Values and Scores rendered by the technology and the Examiner.
Question Library	Sets of questions embedded inside the software, where applicable.
FQS	First Question Stress
IR	Irrelevant Question
IR/C	Irrelevant/Control Question (known amount of pre-stress)
K	Knowledge
S	Suspicion

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- Audiograph: A graphic representation of the processed VSD waveform. Also referred to as 'voice- chart' and 'voice signature'.
- Comparison Question (CQ): A scientifically verified question conforming to Backster 'Exclusive Time' Comparison question, or Reid Comparison question, which is posed to the Examinee, the purpose of which is to induce a significant, measurable physiological response, which in turn is utilised as a scoring basis for the Relevant Issue question. (RQ)
- DI: Deception Indicated. A term describing a positive/failure test result, which indicates to the examiner that the examinee answered untruthfully to the Relevant Questions.
- Homeostasis: This is the normal, conscious state of mind and body in which no direct jeopardy is present, and in which the subject exhibits a state of relaxation or norm.
- IR or N: Irrelevant or Neutral question designed to be irrelevant to the issues for which the test is being conducted. Designed to introduce homeostasis. This question is not scored.
- NDI or NSR: No Deception Indicated/No Significant Responses. A term describing a

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negative/pass test result, which indicates that the examinee answered truthfully to the Relevant Questions.

- SRQ: Sacrifice Relevant Question. A question used primarily to introduce the subject matter being tested. This question is not scored.
- OI: Outside Issue question. A question sometimes utilised to focus the examinee's attention only on the current issue, to exclude his/her possible responses to other, unconnected issues.
- Question Protocols/Constructs: A set of questions conforming in structure to a scientifically validated set of questions, which shall contain a series of IR/N, CQ, RQ and SRQ questions.
- Subject/Examinee: Individual undergoing a Truth Verification examination.
- White-Noise: Static- electricity caused by neon lights, air conditioner motors, radio transmitters, cellular telephone [sms messages even during 'silent-mode' and computer servers.]
- VSD: Voice Stress Detection.

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