



Wildlife Forensic Academy

WFA Information Pack

A comprehensive guide for partners and visitors of the world's first wildlife forensic academy.





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Wildlife crime has exploded on a scale never seen before and is leading towards the extinction of a large number of animal and plant species. It is one of the biggest forms of organised crime, next to drugs, human trafficking and weapon smuggling. The turn-over in wildlife crime is about \$30 billion annually. In the combat against wildlife crime approximately 1000 wildlife rangers have lost their lives. The loss of biodiversity cause serious damage to ecosystems that support our existence. In addition, wildlife crime has a negative impact on local economies. We as a generation need to understand the global threat that wildlife crime is posing for the future. Crime scene assessment and education are key tools in this fight.

In recent years, forensic science has attracted attention both on the small screen and in the real world. Hit shows like CSI and Bones garner record ratings, but television has only begun to scratch the surface of a rich and complex field. Forensic investigation is based on the physical evidence from the crime scene such as: human traces, non-human traces, chemical traces, physical traces and digital traces. We are able to detect, collect and analyse these traces to solve crimes. Technology, education and standardization combined with communication and authorities working towards a common goal is fast-tracking the need for forensics as a fundamental skill set for a number of industries. With forensic knowledge we can: bring perpetrators to justice, prevent the killings or abuse of animals, and ensure the guarding of a fair trial.

When it comes to cases of life and death, objective evidence is crucial. While key evidence in criminal cases may have come from witnesses or other subjective means in the past, forensic science allows for objective evidence. That means that forensic evidence, based as it is on the scientific method, is considered more reliable than eyewitness testimony. In a judicial system which maintains that the accused is innocent until proven guilty, evidence gathered by forensic scientists is now regularly used by both the defence and the prosecution in many court cases.

Often the poaching of animals take place in remote areas or in hidden places. Due to this there are never witness statements! We only can solve these cases with physical forensic evidence. That is why we need to mobilise forensic knowledge and techniques. In many cases wildlife rangers, park managers and veterinarians are the first to detect a poached animal. Due to a lack of forensic knowledge, they destroy valuable physical forensic traces. The importance of these traces is crucial, without forensic evidence it impossible to solve these crimes. Tragically, only 5% of court cases result in a conviction. To mobilise forensic knowledge and expertise we have established the Wildlife Forensic Academy (WFA).

The WFA is world's first wildlife forensic Academy and is based one hour drive from Cape Town, at Buffelsfontein Game and Nature reserve <https://buffelsfontein.co.za/>.

The Academy is a 1000 m² experience lab consisting of several crime scenes (wildlife, furnished house, street with vehicles) a laboratory and a courtroom. All scenes are equipped with sensors, this enables our lecturers to monitor, on screens in our observation room, the human's behaviour at the crime scene. Target groups for training are, Wildlife rangers, park managers, veterinarians, police officers, customs officers and prosecutors.



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The ultimate goal of the Wildlife Forensic Academy is to prevent the killing of protected animals. But there are challenges, such as: the vast areas where poaching takes place and the limited sensory perceptions of humans. We need technology to improve human senses to collect objectifiable data. The focus of forensic investigation is shifting to the front end of the forensic spectrum, before wildlife is killed, this is the domain of forensic intelligence. The use of sensor technology, algorithms and satellite technology enables us to collect, store and analyse behavioural data with the aim to find and interpret patterns. The Wildlife Forensic Academy cooperates with organisations that originates from the Dutch national police. They use state of the art sensor and algorithm technology to detect patterns and interpret these. This knowledge is now available to predict and prevent wildlife crime. In addition to this, the Academy is part of a cutting-edge consortium that has won an EU Call. In this call we will use satellite data, digital twin, algorithms, data science and forensic science to predict and prevent wildlife crime.



Academic Partners

The Academy works closely with a network of universities such as: The Nyenrode Business University (world conservation leadership program), Hogeschool van Amsterdam, University of Amsterdam, Saxion, Avans, Erasmus Hogeschool Brussels, Staffordshire University, University of Florida, the Amity University Dubai, Cyril Wecht Institute and the Bethune Cookman University



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Visitor Guide

The History of South Africa

Africa, the second largest continent (after Asia), covers about one-fifth of the total land surface of the Earth. The continent is bounded on the west by the Atlantic Ocean, on the north by the Mediterranean Sea, on the east by the Red Sea and the Indian Ocean, and on the south by the mingling waters of the Atlantic and Indian oceans. Portuguese explorer Prince Henry, also referred to and known as the navigator, was the first European to methodically explore Africa. At one stage Africa was called the dark continent, apparently due to the fact that Europe did not know much about Africa until after the 19th century. However, this is misleading information as the Europeans had known a lot about Africa for over 2000 years. It was due to European leaders purposefully ignoring earlier sources of information to justify colonialism and anti-blackness. White people called Africa the dark continent because they wanted to legitimize the enslavement of black people and exploitation of Africa's resources. South Africa has been inhabited by people for thousands of years.

The Khoikhoi (hunter gathers and herders) and San (herders) people were the first inhabitants, followed by the Bantu tribes who migrated into the area. Many of the people who live in South Africa today speak some form of Bantu language. The first Europeans to come to South Africa were the Portuguese in 1488. It was many years later, in 1652 when the Dutch East India Company established a small settlement at the Cape of Good Hope.

Many more Europeans moved in over time, including Germans, French, and Dutch settlers. These people are known as Afrikaners. In 1948 the National Party was voted into power. They started a policy called apartheid. This was where people were separated based on their race. Particularly white people and black people were separated, and the white people ruled the land. In 1961, South Africa became an independent nation. The African National Congress (ANC) pushed for the end to apartheid and the equal treatment of black South Africans. Nelson Mandela was a leader of the ANC. He spent 27 years in prison while fighting for equal rights. In 1994 apartheid was abolished and black people were allowed to vote.

Biodiversity

Natural vegetation in South Africa varies from savanna and grassland in the north with fewer trees to scrub and scattered bush in the drier western areas. Because of a Mediterranean climate (dry summers and wet winters), the Western Cape has a distinct vegetation consisting of a Mediterranean-type shrubland called Fynbos. The Fynbos biome forms part of the Cape Floristic Kingdom, which is the smallest plant kingdom in the world (there are 6 globally) and the only one that is limited to one country. The region of approximately 90 000 km² boasts with 9000 plant species of which two thirds are found nowhere else on Earth. For comparison, the whole of Britain only has approximately 2000 plant species. The Cape Floristic Region is classified by the UN as one of the 30 critical biodiversity hotspots on Earth. The east coast of South Africa has a more tropical plant life.



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The Savanna Biome is the largest Biome in southern Africa, occupying 46% of its area, and over one-third the area of South Africa. It is well developed over the lowveld and Kalahari region of South Africa and is also the dominant vegetation in Botswana, Namibia and Zimbabwe.

Wildlife in South Africa is abundant, with almost 300 mammal species. There are several animal species that are among the world's tallest, fastest or even tiniest animals such as the majestic giraffe, the speedy cheetah or the tiny pygmy shrew. Over 850 species of birds live in South Africa, some can only be found here. Among the typical African bird species that can be seen in South Africa are the ostrich, kingfishers, sunbirds and the crane. The Blue Crane is the national bird of South Africa. There are eight species of whales in South African waters. Southern Right Whales can be seen along the entire western and southern coastline, generally from May to December.



Accommodation at the Academy

The academy is based at Buffelsfontein Game and Nature Reserve, one hour from Cape Town.
<https://buffelsfontein.co.za/>.

The accommodation has Wi-Fi, bedding, towels and catering will also be provided. The water on the farm is safe to drink and we also have a water filter available if needed or preferred. There is a bar with soft drinks and bottled water at the Academy, but no grocery store or pharmacy.





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Visas, Vaccinations, Hospitals and Travel Insurance

We refer all our clients to a visa immigration service in SA - <https://tiesimmigration.co.za/>. Generally, visitors from the EU, US and UK can easily obtain a visitor's visa at the airport on arrival. This can then be extended for another 30 – 90 days. We do advise clients to check with their embassy and/or the company above in order to receive the correct and most updated information.

In terms of vaccinations, we advise clients to contact their local travel clinic in their area to check on which vaccinations are needed for their trip to the Western Cape. It remains the responsibility of the client to also inform their travel clinic if they are planning on travelling outside the Western Cape.

Governmental hospitals and clinics in South Africa are variable in terms of reliability and waiting times are often long at facilities. In case of illness or injury we rather recommend using private hospitals or doctors of which there are many in Cape Town.

Remember to organize your own travel insurance before leaving your home country.

Food and Drinks

Cape Town has a variety of grocery stores that are easy to reach by public transport. At the academy itself, the closest grocery store is a 20-minute drive away while there is a restaurant with a bar with alcohol and soft drinks on the farm itself. Local taxis that can be organized in advance are available in this area. Even though the local people drink tap water in the Western Cape, we do advise visitors to rather drink bottled water on arrival as the elements in our local water may be different to what visitors' systems are used to.

Safety

The risk of violent crime to visitors travelling to the main tourist destinations is generally low. South Africa has a high level of crime. South African authorities prioritise protecting tourists and tourism police are deployed in several towns and cities. The most violent crimes tend to occur in townships on the outskirts of major cities and isolated areas. You should use a reliable tour guide if you visit a township and should not travel to townships without one. Central business districts (CBDs) of major cities have a greater threat of crime (including armed robbery) than suburban areas, and the threat increases after dark. If you're visiting the CBD of any major city, remain alert at all times, do not leave valuables on show, and take safe and reliable transport to and from your destination. There is a high incidence of credit card fraud, fraud involving ATMs and 'card skimming'. Make sure you hide your PIN when withdrawing money from an ATM or making a transaction in a shop. Refuse offers of help from bystanders. Don't change large sums of money in busy public areas. Try to use ATMs in banks or secure shopping malls and be discreet when making withdrawals. You're advised not to use the Metrorail suburban railway in the larger cities of South Africa and the long-distance train services operated by the Passenger Rail Authority of South Africa (PRASA).



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Both are unreliable and have high crime levels including theft of infrastructure and criminal activity on board trains. The 'Gautrain' high speed commuter train service which runs between Johannesburg, Pretoria and the Oliver Tambo International Airport is secure and reliable. Walking to and from Gautrain stations after dark is not advisable.

Beach conditions and local safety provisions vary and every year a significant number of people drown due to the strong sea currents. Most beaches do not have warning signs, flags or lifesaving equipment. In the absence of warning signs, you can speak to the local people who are familiar with the conditions. If in doubt, do not enter the water. On busier tourist beaches, follow instructions from lifeguards and any warnings that may be displayed.

When going hiking in the mountains, it is important to be fully prepared for the hike ahead. Wearing sensible and layered clothing is important, even though it may be warm before you start the walk up, once you reach the top it can become rather cold and misty to where you are unable to clearly see your surroundings. In addition to this it is vital to consider the type of footwear you will be wearing, as footwear with poor support and grip could result in injury. It is vital to take enough fluids to keep hydrated along the way.

To drive in South Africa, you must be at least 18 years old. South Africans drive on the left-hand side of the road and all signposts are written in English. It is the law to wear a seatbelt at all times and driving whilst on a phone is prohibited. A valid driver's licence must be carried with you at all times when driving in South Africa. It is recommended to keep a photocopy of your driver's licence separate in your luggage, and to leave a copy at home with family or friends. You can drive in South Africa with a valid UK photocard driving licence for up to 12 months. If you have a paper licence, you should also get an International Driving Permit (IDP) before you travel. Incidents of vehicle hi-jacking and robbery are common, particularly after dark. Keep to main roads and park in well-lit areas. Vulnerable areas include, but are not limited to: traffic lights, junctions, petrol stations and when approaching or pulling out from driveways. Take care at all times and be aware of your surroundings. Try to avoid being stationary in your vehicle for prolonged periods of time, (e.g. by paying inside the shop rather than waiting in the car when you stop for fuel). Keep your windows closed, especially when stationary at junctions. Criminals have been known to employ various methods in order to force a vehicle to stop. Don't pick up strangers or stop to help apparently distressed motorists, as this is a technique sometimes used by hijackers. It is better to continue and report any incident to the police. If you are involved in a hi-jacking, remain calm and surrender your valuables, and your vehicle if asked. Do not try to resist.

Animal Safety

Whilst in South Africa it is important to be aware of your surroundings and vital to know how to react when encountering wild animals. Animals generally exhibit certain signs when humans approach them. When an animal is simply watching you intently it means that it is aware of you but is not feeling threatened yet. When too close to them they will start to demonstrate certain signs and behaviours which should serve as a warning to you that you need to give them their space because they now feel threatened and might become aggressive.



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Warning signs can be stomping of feet, snorting or flapping of the ears. In this case, it is important to retreat in order to allow for a comfortable distance between yourself and the animal. An animal that feels threatened will have a “flight” or “fight” response of which the latter is dangerous as it can cause injury or death in the form of a charge.

Snakes: The Cape cobra is one of the world’s deadliest snakes. Cobras can be encountered throughout the country, so be careful when walking through dunes or bush especially close to the sea, rivers or near a national park. When walking in the bush you need to be aware of your surroundings. Do not step over fallen logs where you cannot see what is on the other side, rather step on the obstacle. Wear good thick boots and long trousers as these will provide some protection. When hiking in the bush it is important that you do not pick up, poke or provoke any snake that you come across, even if it appears to be dead - some snakes such as the Rinkhals play dead, and can strike if disturbed. If you discover a snake, do not approach it closely. If you step on a snake or are very close to a Puffadder then move away quickly. If the snake is only about a meter away, freeze at first and see the snakes reaction - it will likely look for an escape route. If it is cornered, back away slowly. If you move slowly, you are not perceived as a threat and the snake is less likely to strike. Observe the snake. If the snake stays slithering on the ground, it will likely move away and not strike. If the snake rears up like a cobra and flattens its neck to form a hood, then it is aggressive and is likely to strike and you need to act with caution. The most important advice if you are bitten by a snake is to remain calm. Do not panic or rush as this speed up your metabolism and spreads the poison faster. More damage is done by the shock than the actual bite. Identify the snake if possible. If you do not know what snake it is try and memorize what it looks like. Relax and phone for medical help. Know that not many South African hospitals deal with snake bites regularly so inform them and ask them to phone the Tygerberg Poison Centre (0861 555 777).



These are the three most common venomous snakes that can be encountered in the Western Cape region of South Africa. From left to right: Cape Cobra, Puffadder and a male boomslang (translates as “tree snake”).

- If you are bitten by a cytotoxic snake such as an adder
- Drink plenty of water
- Apply a sterile dressing to the wound
- Never try and suck the venom out with your mouth
- Do not squeeze the bite
- Do not apply a tight bandage or tourniquet



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- If you are bitten by a neurotoxic snake such as a cobra or mamba
- Stay calm and breathe gently
- Immediately apply a crepe bandage firmly around the wound, as if for a muscle sprain. This will reduce the amount of venom entering the bloodstream but should also not cut off the blood circulation
- Do not apply a tourniquet
- Never try and suck the venom out
- Transport the person to hospital as soon as possible as these snakes have potent venom and anti-venom will be needed.

Rhinos: When a Rhino sees you it will either run away or run at you. These animals do not give warning or make mock charges and can accelerate from 0-55kmph. It is important that you do not try and outrun a rhino. If in groups, do not scatter, try and stick together and try and make an escape plan beforehand and never leave yourself with no cover.

Zebras: Zebras tend to not hurt humans, although they can be aggressive and will viciously bite or kick any human that comes too close. As with all wild animals, allow them enough space as to not feel threatened.

Baboons: Chacma baboons are often a common occurrence and problem in Cape Town; they are extremely strong and agile as well as aggressive. They have been known to enter cars and homes if they are able to, as they have opposable thumbs which means they can easily open unlatched windows and unlocked doors. The City of Cape Town's Environmental Management share advice on how to handle baboons if spotted, the first is to never feed them, and make sure all food is out of reach, as well as rubbish. Keep all food out of sight, out of mind. Any plastic bag is thought of as food to them. Do not pet the baboons. Don't look them directly in their eyes. The feeding of wild animals is illegal in the Western Cape. If a baboon tries to grab items from you it is better to allow them to look at it as they are only interested in food and will drop a backpack or purse as soon as they have searched it for food. Try and avoid the situation in the first place.

Buffalo: These creatures are commonly known as 'The Black Death' as the African buffalo is widely regarded as a very dangerous animal as they have been known to kill nearly 200 people each year. This rate is only high as they are notorious among big game hunters as dangerous animals, and wounded buffalos have been reported to ambush and attack pursuers.

Hippo: Although you may think Cape Town is the last place you would expect to see hippos it isn't. If you do want to see these creatures, then the hippos at Rondevlei Nature reserve are best viewed in the early morning or late in the afternoon during colder months. Not only are hippos one of the largest South African mammals, they are also the most dangerous. Look-out points at Rondevlei allows for safe viewing.

Elephants: When faced with an elephant, is important to remain stationary. Do not approach the elephant or try to chase it away. Stand still for a few moments before very slowly retracing your steps. If you keep calm the chances are good that the elephant won't see you as a threat and will mind its own business.



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Lions: Being charged by a lion when you are on foot is extremely frightening. It is difficult to stop yourself from bolting, but that is likely to prompt an attack. A lion charge is usually accompanied by a deep growling sound that reverberates through your very core. It is vital to stand your ground, perhaps retreating very slowly, but to continue facing the lion while clapping your hands, shouting and waving your arms around to make yourself look bigger. Most charges are mock charges.

Great White Shark: South African shark attack records over the last four decades confirm that attacks are rare, with an average of only six incidents per year. From 1990 until 2011 there have been a total of 139 unprovoked great white shark attacks. Since 1990 only 26% of attacks have resulted in serious injury and only 15% were fatal. This equates to an average of one serious shark inflicted injury every year along some 2000 km of coastline from the Mozambique border to Table Bay.



Travel Money & SIM Cards

When travelling abroad, it is important to choose how you want to manage your money. One of the best ways is to exchange some of your currency into South African rands, as it is always best to have some cash just in case some places do not accept card. When it comes to using your debit and or credit card abroad, it would be a safer and more secure option to go into your local post office or travel agents to see if they do cards to use abroad. The use of these cards is that you can add however much money you'd like onto the card, whenever you need it so if you wash, lose or misplace this card then your main account card for your bank is still kept safe. Money on these cards can then be changed into a different currency or back to your own currency. Visa and Mastercard are generally accepted in South Africa. Remember to contact your bank prior to leaving your home country in case you need them to authorize international transactions.

When arriving in South Africa your SIM card can stop working or start charging you roaming rates due to being in a different country. A way to keep the cost down of this is to get a SIM card whilst out in South Africa, these can be purchased at the airport and topped up at the local store if you were to run out of credit. Vodacom is generally the most reliable service provider with reception in most areas.



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Cape Town

With the Wildlife Forensic Academy being situated only an hours' drive from Cape Town, this provides a perfect opportunity to get away on the weekends and explore the Mother City. Cape Town is full of history and activities and offers activities for those with different abilities and interests to enjoy. In addition to this, it is an Instagrammers dream destination, as Cape Town is home to some of the world's most breath-taking natural beauty and sights. Here is just a brief list of activities that you can check off during your time in Cape Town.

Number 1: Table Mountain

Table Mountain is a prominent landmark overlooking the city of Cape Town. It is one of the most popular visitor destinations in Cape Town, with the number of hiking trails varying in difficulty. An alternative is taking the cable car up and down the mountain.

Number 2: Red Bus Tours

With an open top bus and over 30 stops and 3 routes this is a great way to get around and explore Cape Town. It offers the opportunity of having the leisure to get on and off whenever you feel like it to explore landmarks and attractions that appeal to you.

Number 3: Two Oceans Aquarium

The aquarium is located in the V&A Waterfront in Cape Town. It's a great place to get up close to the sea life with information every step of the way making this a fun and educational few hours to spend.





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Number 4: Paragliding

This activity can last between 10-15 minutes, presenting the perfect opportunity to see all the beauty Cape Town has to offer from a birds eye view.

Number 5: Drinks & Food in Camps Bay

Camps Bay is a 15-minute drive from the V&A Waterfront and is a great way to take in the picture- perfect scenery. The beach is gorgeous and opposite to it is a strip of bars and restaurants that are inexpensive and have a wide variety to offer.

Number 6: Shark Cage Diving

If you're a thrill seeker at heart, then what could be better than shark cage diving? With this being an ultimate adventure activity in South Africa this is something to definitely write home about!

Number 7: Robben Island

Among all the adventure Cape Town has to offer, there's a multitude of history to go alongside. Take a trip to Robben Island for a history lesson and to the place where former president Nelson Mandela was jailed for 18 of his 27 years!

Number 8: Cape Point

Cape Point is a spectacular sight with towering stone cliffs, breath-taking bays, beaches and rolling green hills and valleys just 60km outside of Cape Town. This is also where the Atlantic and Indian Oceans come together.

