



S F S THE SCHOOL
FOR FIELD STUDIES

Wildlife Management and Conservation

SFS 3500

Syllabus

The School for Field Studies
Center for Wildlife, Water and Climate Resilience (CWWCS), Kenya
Kimana, Kenya

This syllabus may develop or change over time based on local conditions, learning opportunities, and faculty expertise. Course content may vary from semester to semester.



COURSE CONTENT SUBJECT TO CHANGE

Please note that this is a copy of a recent syllabus. A final syllabus will be provided to students on the first day of academic programming.

SFS programs are different from other travel or study abroad programs. Each iteration of a program is unique and often cannot be implemented exactly as planned for a variety of reasons. There are factors which, although monitored closely, are beyond our control. For example:

- Changes in access to or expiration or change in terms of permits to the highly regulated and sensitive environments in which we work;
- Changes in social/political conditions or tenuous weather situations/natural disasters may require changes to sites or plans, often with little notice;
- Some aspects of programs depend on the current faculty team as well as the goodwill and generosity of individuals, communities, and institutions which lend support.

Please be advised that these or other variables may require changes before or during the program. Part of the SFS experience is adapting to changing conditions and overcoming the obstacles that they may present. In other words, the elephants are not always where we want them to be, so flexibility is key.

Course Overview

This one-month course will focus on diverse aspects of wildlife conservation and management and in Kenya, East Africa. It will apply a multipronged learning approach using classroom lectures, field lectures, field-based exercises, and group discussions. This will be augmented with field excursions and experiential learning in some of the famous protected areas in Kenya mainly Amboseli National Park and the Maasai-Mara National Reserve. The later lies contiguous to the Serengeti National Park along the Kenya-Tanzania borderland. Overall, this interdisciplinary curriculum is designed to assist students actively discover and understand the complexities of environmental and social-economic issues in Kenya and how they influence wildlife management and conservation as well local perceptions towards wildlife.

Primarily, the course will expose students to wildlife conservation and management approaches and policies in Kenya, challenges and complexity of sustainable wildlife management and conservation. It combines concepts and principles of ecology, wildlife management and human dimensions of conservation, which is central to effective and sustainable wildlife conservation. During the course, students will explore the socio-cultural, political, and economic context of the relationship between people and wildlife in Kenya using the Amboseli Ecosystem as a case study. This ecosystem is a prime wildlife endowed landscape in the country but it's being overran rapidly by rising human population, development, land tenure and land use changes. Wildlife conservation in the ecosystem will therefore be examined in the context of competing and economically lucrative land use alternatives especially pastoralism, agriculture, and agro-pastoralism. To understand the present, past, and future of wildlife conservation, its management and sustainability as a land use in the ecosystem and in the country, students will examine relevant policy and legal frameworks, land tenure regimes and local people's attitudes towards wildlife. Additionally, the course will examine the pitfalls and success of community conservation and inadequate involvement of local communities in wildlife conservation initiatives.

Learning Objectives

The overarching objective of the course is to expose students to various wildlife conservation and management issues in the Amboseli Ecosystems, and generally in Kenya. An in-depth understanding of these issues will provide the platform upon which students and Faculty will examine and propose realistic and holistic approaches to effective and sustainable wildlife conservation in the ecosystem and at the national level. This learning process will be achieved through interactive learning and experiential activities, including lectures by Faculty and guest lecturers, field exercises, class discussions, and field lectures. Ultimately the specific objectives of the course are to: -

1. Understand the human-environment interactions in the Amboseli Ecosystem, and their impacts on wildlife, its conservation, and the human-wildlife interface and the resultant conflicts
2. Understand the effects of uncontrolled land use changes on the environment, protected areas, wildlife, and other critical natural resources

3. Examine the dilemma and challenges of conserving wildlife in protected areas of Kenya amidst a rapidly changing political and socio-economic environment
4. Impart basic skills in field techniques such as identification of large African wildlife mammalian species, wildlife counts, social and behavioral studies
5. Explore the ecology, social organization, and behavior of common African large wildlife mammals
6. Evaluate the ecological function of large African Savanna carnivores, their conservation status and challenges to their co-existence with communities
7. Understand the key constraints to conservation of wildlife among resource-poor rural populations of Africa

Case Study Overview and Background

Title of Case Study

The influence of biophysical and socio-cultural factors on wildlife and other natural resources conservation and management in the Amboseli Ecosystems of East Africa

Case Study Question

How can changes in land tenure, natural resources utilization and availability, human demography and land use in the Amboseli Ecosystem be effectively managed to promote the socio-economic wellbeing of local communities whilst promoting wildlife conservation?

Background: The Amboseli Ecosystem

The basis for this case study is the Ecosystem Approach, which underpins the need to promote landscape connectivity as a key pillar in sustainable and long-term conservation of wildlife. Most of the learning will focus on the Amboseli Ecosystem which is situated in the Southeastern sector of Kenya. The ecosystem comprises of expansive Maasai Group Ranches, which are privately owned parcels of land along the Kenya-Tanzania border, protected areas, mainly, Amboseli, N. Park and several private wildlife sanctuaries/conservancies. It also neighbours the Chyulu Hills, Tsavo West and Mt. Kilimanjaro N. Parks, and has a mixed community made up of different ethnic groups; the Maasai, Kikuyu and Kamba among others. Of importance are the Maasai people, whose pastoral lifestyle has remained highly tied to the environmental conditions and dynamics of the landscape. Thus, this landscape unlike most parts of the country is still endowed with diverse and high wildlife abundance including elephants albeit in a rapidly human altered environment.

Like other parts of the country, the Amboseli region is changing rapidly and its increasingly becoming a human dominated landscape characterized by expanding settlements and infrastructure development. Additionally, its experiencing rapid and significant shifts in land tenure and use patterns, and socio-economic changes among the Maasai and migrants, which is increasing human-wildlife competition for scarce resources (e.g., space, water, and pasture).

Unfortunately, the resultant human-wildlife conflicts have serious and long-term wildlife, natural resources conservation ramifications as well as socio-economic costs. They are an immediate and present danger to effective and sustainable wildlife conservation, and the historical harmonious co-existence between people and wildlife. The threats facing wildlife conservation are also a big danger to availability and sustainable use of other critical natural resources particularly water, pasture, and woody plants. And recently, Climate change has also become another serious and worrisome environmental challenge, and whose impacts on the environment, wildlife, and natural resources as well as local livelihoods will be devastating.

Water is also a critical resource limiting land use, plant productivity, wildlife movement and spatial distribution in the Amboseli Ecosystem. There is a natural scarcity of water in this region because it lies in the rain shadow of the Mt. Kilimanjaro. To compound the problem, Mt. Kilimanjaro's icecaps have been documented to be rapidly receding so much that fewer rivers and streams emerge today from underground springs. Since water is a limiting resource in the ecosystem, such areas are under pressure for degradation due to over-exploitation from community home use, wildlife, livestock, and irrigated farming activities. This situation has further been worsened by recent Climatic changes characterized by highly irregular and insufficient rains, frequent dry spells, and droughts. There is an urgent need to understand the socio-economic, political, and environmental drivers and implications of land reform for wildlife conservation and local livelihoods in this rapidly dynamic and changing landscape.

Another notable change in the Amboseli region is increase in human demography including a high influx of non-Maasai ethnic groups such as the Kikuyu and Kamba. To some extent this has increased demand for natural resources, and land for settlements. The latter has lured the Maasai to sell their land due to its high lucrative financial returns, further creating an unfavorable environment for wildlife and natural resources conservation. In addition, the state of environmental and natural resources governance in the entire region is very poor, uncoordinated, and existing laws and guidelines are not effectively enforced by government lead agencies. Accordingly, there's rampant environmental degradation, misuse, commercialization, and overexploitation of natural resources with total disregard of the impacts on livelihoods which are largely dependent on natural resources.

During the summer I program, we will visit Amboseli National Park, community conservancies in the former Kimana group ranch, and a camping trip to the world famous Maasai Mara. In the Mara, students will learn various aspects of wildlife conservation including cross-border conservation challenges between Kenya and Tanzania and compare these with aspects covered in the Amboseli region.

Assessment

Active participation is expected through class discussions, field exercises, field trips and course readings. The assessment breakdown for the course grade is as follows:

Assessment Item	Value (%)
- FEX 1: Large mammal identification, social organization, and behavior	20
- FEX 2: Baboon ecology and behavior	20
- FEX 3: Developing sustainability plan for conservancies in Amboseli Tsavo Ecosystem	20
-Final exam	30
-Participation	10
TOTAL	100%

FEX1: Large mammal identification, social organization, and behavior (20%): This exercise students will examine simple large mammalian wildlife taxonomy, identification and social organization in protected areas of the Amboseli and Maasai-Mara Ecosystems. This information is critical to drive the point that to manage wildlife species understanding their identification social organization has significant implications in their management and conservation. Each student will hand-in a 5-7-page report for grading

FEX 2: Baboon ecology and behavior (20%): Students will learn how to sample and document behavioral attributes of yellow baboons, and how to use ethograms to study primate behavior. The exercise will be done on a troop of yellow baboons in the Kimana community wildlife sanctuary using the scan sampling method. Specifically, students will assess the activity time budget of the troop and the data collected will be used to estimate the proportion of time (in %) spent in different activities. Each student will then write a 3–4-page graded assignment

FEX 3: Developing sustainability plan for conservancies in Amboseli Tsavo Ecosystem (20%): Students will conduct Key Informant Interviews with stakeholders of conservancies in the former Kimana Group Ranch. This will be done through the guidance of the faculty. The information gathered from will be used to develop a sustainability plan for group and community conservancies in the ecosystem. In addition, students will make a presentation on their proposed plans. Both the sustainability plan and presentation will be graded

Final Exam (30%): During the final exam you will be tested on material presented in lectures, field lectures and excursions. Answering questions will require critical and analytical thinking across the various teaching units.

Grading Scheme

A >95%	B+ 86-89%	C+ 76-79%	D+ 66-69%
A- 90 – 94%	B 83-85%	C 73-75%	D 60-65%
	B- 80-82%	C- 70-72%	F <59%

General Reminders

Readings: Assigned readings and hand outs (exercises/assignments) will be available prior to the scheduled activities. Course readings must be read and clarification on issues sought where necessary since ideas and concepts contained in them will be expected to be used and cited appropriately in assigned course essays and research papers.

Plagiarism: Using the ideas or material of others without giving due credit – is cheating and will not be tolerated. A grade of zero will be assigned for anyone caught cheating or aiding another person to cheat either actively or passively (e.g. allowing someone to look at your exam).

Deadlines: Deadlines for written field exercises and other assignments are posted to promote equity among students and to allow faculty ample time to review and return assignments in good time. As such, deadlines are firm, and extensions will only be considered under the most extreme circumstances. Late assignments will incur a 10% penalty for each hour that they are late. This means an assignment that is five minutes late will have 10% removed. an assignment that is one hour and five minutes late will have 20% of the grade deducted.

Participation: Since we offer a program that is likely more intensive than you might be used to at your home institution, missing even one lecture can have a proportionally greater effect on your final grade simply because there is little room to make up for lost time. Participation in all components of the program is mandatory because your actions can significantly affect the experience you and your classmates have while attending the SFS program. Therefore, it is important that you are prompt for all course activities.

Course Lectures and Activities

Type: L = Lecture, FE = Field Exercise, FL = Field Lecture, TL = Travelling Lecture.

Faculty: RK=Richard Kiaka, MO=Moses Okello and JW=John Kiringe

Code	Titles of Lectures & Field Exercises	Time	Readings	Instructor(s)
EE01	<p>Case study overview: conservation issues in the Amboseli Ecosystem: Lecture provides a broad scope of the human dimensions and natural resources conservation issues (threats, challenges, and opportunities) in the Amboseli Ecosystem</p>	2Hrs(L)	<p>Okello, M. M. 2005. Land use changes and human - wildlife conflicts in the Amboseli Area, Kenya. Human Dimensions of Wildlife, 10(1): 19 – 28 (Required)</p> <p>Okello, M. M. and D’Amour, D.E (2008) Agricultural expansion within Kimana electric fences and implications for natural resource conservation around Amboseli National Park, Kenya. Journal of Arid Environments,72: 2179–2192 (Required)</p> <p>Okello, M.M. and Kioko, J.M. 2010). Contraction of Wildlife Dispersal Area in Olgulului – Ololorashi Group Ranch Around Amboseli National Park, Kenya. The Open Conservation</p>	JW/All Faculty

			Biology Journal, 4, 34-45 (Required)	
EE02	<p>Land use changes in the Amboseli Ecosystem and their impact on wildlife and natural resources conservation: This field-based lecture will showcase some of the key land use changes that have occurred in the Maasai group ranches of the Amboseli Ecosystem and the threats and challenges they have created for long-term and sustainable conservation of elephants</p>	3Hrs(TL)	<p>Okello, M. M. 2005. Land use changes and human - wildlife conflicts in the Amboseli Area, Kenya. Human Dimensions of Wildlife, 10(1): 19 – 28 (Required)</p> <p>Okello, M.M. and Kioko, J.M. 2010. Contraction of Wildlife Dispersal Area in Olgulului – Ololorashi Group Ranch Around Amboseli National Park, Kenya. The Open Conservation Biology Journal, 4, 34-45 (Required)</p>	RK/JW
EE03	<p>Introduction to concepts and principles of human dimensions of natural resources conservation. An in-depth definition and understanding of concepts of Human Dimensions in resource management and justification for understanding human nature and needs in resource conservation.</p>	2Hrs(L)	<p>Jacobson, S. K., & McDuff, M. D. (1998). Training idiot savants: the lack of human dimensions in conservation biology. <i>Conservation Biology</i>, 12(2), 263-267. (Required)</p> <p>Bennett et al. (2017). Conservation social science: Understanding and integrating human dimensions to improve</p>	RK

			<p>conservation. (Required)</p> <p>Pretty et al. (2009). The intersection of biological and cultural diversity. (Suggested)</p> <p>Bruskotter, J. T., & Shelby, L. B. (2010). Human dimensions of large carnivore conservation and management: introduction to the special issue. <i>Human Dimensions of Wildlife</i>, 15(5), 311-314. (Suggested)</p>	
EE04	<p>Historical background of conservation practice and thought(Film):</p> <p><i>Film : A place without people (54 min)</i></p> <p>This film tackles the history of creation of world-famous conservation areas in Africa, and the associated human rights issues. Focusing on Tanzania’s Serengeti and Ngorongoro parks, the film shines a light on the intersection of conservation, land use, community livelihoods and the tourism industry.</p>	2Hrs(L)	<p>Nelson (2003). Environmental Colonialism: “Saving” Africa from Africans. (Required)</p> <p>Kothari et al. (2013). Conservation as if people also mattered: Policy and practice of community-based conservation. (Required)</p>	RK
E05	<p>Introduction to large wildlife mammals of Southern Kenya: This will be a lecture students will learn why studying large mammal social organization is important. They will also learn about dominance and hierarchical manifestations of social</p>	2 Hrs(L)	<p>Estes, R. D. 1991. Behavioral Guide to African Mammals including Hoofed Mammals , Carnivores and Primates. Awake</p>	MO

	organization in large mammals and common social organization types		<p>Forest Studium Book. Russel Friedman Books Publishers. South Africa. 611pp (Main reference)</p> <p>Kingdon, Jonathan: The Kingdon Field Guide to African Mammals; Academic Press, 1997.</p> <p>McNaughton, S.J. & Georgiadis, N.J. 1986. Ecology of African Grazing and Browsing Mammals. Annual Review of Ecological Systematics 17: 39 – 65 (Required)</p>	
EE06	Ecology and behavior of yellow baboons: Theory: The lecture I examines the general ecology and behavior of yellow baboons, and provide insights on why studying primate behavior is critical to their conservation	2Hrs(L)	<p>Estes, R. D. (1991). Behavioral Guide to African Mammals including Hoofed Mammals , Carnivores and Primates. Awake Forest Studium Book. Russel Friedman Books Publishers. South Africa (Required)></p> <p><u>Note:</u> Copies of this textbook are in the library</p>	JW
EE07	Large mammal social organization: Students will watch a film on strategies used by large carnivores to enhance successful hunting, and	2Hrs(L)	None	MO

	strategies used by prey species to escape predation			
EE08	Introduction to large wildlife mammals and social organization in Southern Kenya: This field exercise will introduce students on identification, observation of social organization and behavior of large mammals in the Amboseli Ecosystem	3Hrs(FE)	None	MO
EE09	Land tenure, land use changes and their impact on the Maasai and natural resources conservation in the Amboseli Ecosystem: This lecture will focus on Maasai land tenure from the colonial period to the present day. Further, it will explore the reasons and trend of land use changes from pastoralism to agro – pastoralism and implications for natural resource conservation in Amboseli	2Hrs(L)	<p>Kantai (2007). In the grip of a vampire state: Maasai land struggles in Kenyan politics. (Required)</p> <p>Veit (2011). History of land conflicts in Kenya. (Required)</p> <p>Mwangi (2007). The puzzle of group ranch subdivision in Maasailand. (Suggested)</p> <p>Groom and Western (2013). Impact of land subdivision and sedentarization on wildlife in Kenya's Southern Rangelands Rangeland Ecology & Management, 66(1):1-9. (Suggested)</p> <p>Mwangi & Ostrom (2009). A century of institutions and ecology in East</p>	RK

			Africa's rangelands. (Suggested)	
EE10	Behavior and ecology of yellow baboons: In this field exercise students will learn how to make behavioral observations on yellow baboons. It will also introduce students on how to use ethograms for studying primate behavior	4Hrs(FE)	Post, D.G. (1981). Activity pattern of yellow baboons (<i>Papio cynocephalus</i>) in the Amboseli National Park, Kenya. <i>Animal Behaviour</i> , 29, 357-374 (Required)	JW
EE11	Large mammal game count methods 1: This lecture will examine the rationale for counting wildlife, how to conduct sample and total counts and the underlying considerations	2Hrs(L)	Okello, M. M. 2005. An assessment of the large mammal component of the proposed wildlife sanctuary site in Maasai Kuku Group Ranch near Amboseli, Kenya. <i>South African Journal of Wildlife Research</i> 35 (1): 63-76 (Required)	MO
EE12	Predator consolation and mitigation strategies in Amboseli. This lecture will examine strategies of enhancing community tolerance to large predators in the Amboseli region and minimizing predation on livestock by wild predators	2Hrs(L)	Frank et al. (2006). Lion Killing in the Amboseli -Tsavo Ecosystem, 2001-2006, and its implications for Kenya's lion population (Required) Manoa and Mwaura (2016). Predator-proof bomas as a tool in mitigating human-predator conflict in Loitokitok Sub-County,	JW/Guest

			<p>Amboseli Region of Kenya (Required)</p> <p>Muriuki et al. (2017). The cost of livestock lost to lions and other wildlife species in the Amboseli ecosystem, Kenya. European Journal of Wildlife Research, 1-11 (Open access) (Suggested)</p>	
EE13	<p>Large mammal count methods II: Students will watch a film demonstrating different methods and approaches of ground and aerial counts for mammals in Kenya by the Kenya Wildlife Service (KWS) and in other parts of the world</p>	2Hrs(L)	None	MO
EE14	<p>Counting large mammals in Amboseli N. Park. In this field exercise, students use road counts large mammals in Amboseli N. Park. The data will later be used to assess species richness, density, and diversity in different habitats</p>	4Hrs(FE)	None	MO
EE15	<p>Ecological separation of African wildlife ungulates and its application in wildlife management. The lecture will explore how assemblages of African wildlife ungulates are able to co-exist in the same landscapes, and how this can be used to enhance their management and conservation</p>	2Hrs(L)	<p>Hanley, T.A. (1982). The nutritional basis for food selection by ungulates. Journal of Range Management, 35(2): 146-151 (Required)</p> <p>Nichols, R. (2012). Coexistence in ungulate communities:</p>	JW

			<p>niches, resource partitioning, competition & facilitation.</p> <p>Introductory Research Essay No. 17, Department of Wildlife, Fish, and Environmental Studies Swedish University of Agricultural Sciences 901 83 Umeå, Sweden (Required)</p>	
EE16	<p>Large mammal species diversity assessment: Students will learn how to evaluate and interpret large mammal diversity, dominance, evenness (Simpson) and diversity indices</p>	2Hrs(L)	<p>Brower, J. E., and Zar, J. H. 1977. Field and Laboratory methods for General Ecology. 2 nd Edition. Pages 153 – 160 (Required) enough copies in the library</p> <p>Zar, J. H. 1994. Biostatistical Analysis. 4 th Edition. Prentice – Hall Publishers.718 pages (Suggested)</p>	MO
EE17	<p>Challenges facing Amboseli National Park: This field lecture will showcase key challenges facing the park and implications on sustainable wildlife and ecological viability of the park</p>	3Hrs(FL)	<p>Okello, M.M., S.G. Manka & D.E. D’Amour. 2008. The Relative Importance of Large Mammal Species for Tourism in Amboseli National Park, Kenya. Tourism Management 29 (4):751 – 760 (Required)</p>	MO

			<p>Okello, M.M., D.E. D'Amour & S.G. Manka. 2008. Tourism Attractions and Satisfaction of Amboseli National Park, Kenya Tourism Analysis 13: 373 - 386 (Required)</p> <p>Okello, M. M., B.E.L. Wishitemi, and B. Lagat. 2005. Tourism Potential and achievement of Protected Areas in Kenya: Criteria and Prioritization. Tourism Analysis 10 (2):151 – 164 (Suggested)</p>	
EE18	<p>Community based conservation in Kenya: strengths and weaknesses This lecture will explore the concept of community-based conservation, its objectives, challenges and opportunities; forms of community conservancies will be outlined. Community conservancies will be discussed paying particular attention to comparative practices and experiences in East and Southern Africa; why they have mushroomed since mid-1990s as well as their current status and future. Case studies from Kenya are analyses.</p>	2Hrs(L)	<p>Hackel (1998). Community conservation and the future of Africa's wildlife. Conservation Biology, 13: 726 – 734 (Required)</p> <p>Galvin, K. A., Beeton, T. A., & Luizza, M. W. (2018). African community-based conservation. (Required)</p> <p>Brockington, D. (2004). Community conservation, inequality and</p>	RK

			<p>injustice: myths of power in protected area management. <i>Conservation and society</i>, 411-432. (Required)</p> <p>Cavanagh, C. J., Weldemichel, T., & Benjaminsen, T. A. (2020). Gentrifying the African landscape: The performance and powers of for-profit conservation on Southern Kenya's conservancy frontier. <i>Annals of the American Association of Geographers</i>, 110(5), 1594-1612. (Suggested)</p> <p>Berkes, F. (2004). Rethinking community-based conservation. (Suggested)</p>	
EE19	<p>Human-wildlife conflicts in Amboseli Ecosystem. This guest lecture is offered by an officer of an NGO working on HWCs in the region. It will focus on causes, costs and mitigation strategies of human-wildlife conflicts among local inhabitants of the ATE</p>	2Hrs(L)	<p>Okello (2005). Land use changes and human-wildlife conflicts in the Amboseli area, Kenya. (Suggested)</p> <p>Muthui (2018). Kenya's original sin: root cause of rising human-wildlife conflicts. The</p>	RK/Guest

			elephant (Article). (Suggested) Mukeka, Joseph et al (2018). Characteristics of Human-Wildlife Conflicts in Kenya: Examples of Tsavo and Maasai Mara regions (Suggested)	
EE20	Developing sustainability plan for conservancies in Amboseli Tsavo Ecosystem: In this field exercise, students will work in groups to conduct interviews with various actors in community conservation in AET to collect information that they will use to develop a sustainability plan for conservancies in the ecosystems. Students will write a sustainability plan for grading.	5Hrs(FE)	None	RK
EE21	Human and livestock encroachment in the Maasai Mara National Reserve: causes and implications for wildlife conservation: Human encroachment of protected areas is one of the significant challenges to conservation of specific wildlife species and an indicator of informal negotiations as well as contestation of conservation spaces. Drawing from the case of Maasai Mara, the guest lecture will enable students to explore the factors that contribute to park encroachment; what forms of encroachment are prevalent in the game reserve; their consequences on conservation and tourism; and interventions by park management	2Hrs(L)	Waithaka, J. (2004). Maasai Mara—an ecosystem under siege: an African case study on the societal dimension of rangeland conservation. <i>African Journal of Range and Forage Science</i> , 21(2), 79-88. (Suggested) Okello, M. M., & Kiringe, J. W. (2004). Threats to biodiversity and their implications in protected and adjacent dispersal	RK/Guest

			areas of Kenya. <i>Journal of Sustainable Tourism</i> , 12(1), 55-69. (Suggested)	
EE22	Impacts of tourism on wildlife conservation in Maasai Mara Game Reserve. Students will take a travelling lecture while observing and taking note of various impacts of tourism such as overcrowding, off- road driving, habituation of wildlife in Maasai Mara Game Reserve.	2Hrs(TL)	Holland, K. K., Larson, L. R., Powell, R. B., Holland, W. H., Allen, L., Nabaala, M., & Nampushi, J. (2021). Impacts of tourism on support for conservation, local livelihoods, and community resilience around Maasai Mara National Reserve, Kenya. <i>Journal of Sustainable Tourism</i> , 1-23. (Suggested) Drummond, D. (1995). Impacts of tourism on the ecology of Maasai Mara. <i>Wajibu</i> , 10(1), 9-11. (Suggested – Not peer reviewed)	RK
EE23	Cheetah ecology and conservation: Lecture will provide background to life history traits and conservation challenges of this wide-ranging African savanna hunter. Historical and recent events in population decline and current conservation efforts are the basis for discussions about potential conservation approaches in future	2Hrs(L)	Dobrynin et al. (2015). Genomic legacy of the African cheetah, <i>Acinonyx jubatus</i> . <i>Gen Biol</i> 16:277 (Required)	JW/Guest
EE24	Human- Large Carnivore conflicts in Maasai Mara Ecosystem: nature, scope, and mitigation measures. This guest lecture will explore some of	2Hrs(L)	Broekhuis, F., Kaelo, M., Sakat, D. K., & Elliot, N. B. (2020). Human–wildlife	RK/Guest

	ways through which human activities conflicts with large carnivore in the Maasai Mara ecosystem and their trends over the last 5 years. The guest lecture will explain the implications of this scenario to conservation of those species and discuss some of the mitigation and adaptation strategies.		coexistence: attitudes and behavioural intentions towards predators in the Maasai Mara, Kenya. <i>Oryx</i> , 54(3), 366-374. (Suggested) Schuette, P., Creel, S., & Christianson, D. (2013). Coexistence of African lions, livestock, and people in a landscape with variable human land use and seasonal movements. <i>Biological Conservation</i> , 157, 148-154. (Suggested)	
EE25	Fragmentation of the Maasai-Mara Ecosystem and its impact on wildlife populations and dispersal: Lecture will examine drivers of human demography, land tenure and land use changes in the Maasai-Mara ecosystem and their implications to long-term conservation of wildlife. These changes will be compared to observed trends in the Amboseli Ecosystem	2Hrs(L)	David S. Green, Elise F. Zipkin, Darren C. Incorvaia and Kay E. Holekamp (2019). Long-term ecological changes influence herbivore diversity and abundance inside a protected area in the Mara-Serengeti ecosystem (Required)	JW
TOTAL HOURS		60		