Education of global veterinarians

Jorge A. Hernandez a,*, Traci M. Krueger b, Sheila A. Robertson a, Natalie Isaza a, Ellis C. Greiner a, Darryl J. Heard a, Amy E.S. Stone a, Michelle L. Bellville a, Victoria Condor-Williams a

a College of Veterinary Medicine, University of Florida, Gainesville, FL 32610, United States
b College of Public Health & Health Professions, University of Florida, Gainesville, FL 32610, United States

A R T I C L E   I N F O

Keywords:
Global veterinarians
Internationalization of the veterinary curriculum
Education

A B S T R A C T

In 2003, the University of Florida (UF) College of Veterinary Medicine (CVM) created an Office of International Programs (OIP) in response to one of ten initiatives of the UF Strategic Plan: internationalization of the curriculum. The OIP has developed coursework that provides students with an opportunity for international exposure during the veterinary curriculum at three levels. In Level 1 (on campus) students can participate in a seminar series in global health: www.ufglobalhealth.org. This is an elective course offered to professional students at the UF Health Science Center (Dentistry, Medicine, Pharmacy, Public Health, and Veterinary Medicine). In Level 2 (abroad), students can participate in structured study abroad programs under the supervision of UF faculty and international scholars from collaborative institutions abroad. In Level 3 (on campus and abroad), students can participate in a certificate program in international veterinary medicine. This is a 15-credit program, parallel to the veterinary curriculum. By offering courses on campus and abroad, we want to empower the curriculum with a global perspective of the veterinary profession, as well as with a humanist education that can help students recognize the importance of respect for cultural differences and the reasons for different degrees of development and growth in the world. In addition, this paper presents the need for veterinary medicine and other disciplines in the health sciences to communicate with other disciplines in the social sciences and natural sciences to create development practitioners equipped with cross-disciplinary knowledge and skills needed to formulate, implement and evaluate solutions aimed at breaking the cycle of poverty and disease in low income societies. Finally, this paper makes a call to the American Veterinary Medical Association Council on Education to assess the need to recognize the importance of internationalization of the veterinary curriculum as a key standard for accreditation of colleges or schools of veterinary medicine.

© 2009 Elsevier B.V. All rights reserved.

1. Introduction

In 2003, the University of Florida (UF) College of Veterinary Medicine (CVM) created an Office of International Programs (OIP) in response to one of ten initiatives of the UF Strategic Plan: internationalization of the curriculum. The mission statement of the OIP is to increase student awareness in global health issues of interest to the public, the veterinary profession and other disciplines in the health and social sciences, as well as to facilitate medical
research and outreach activities abroad: www.vetmed-oip.ufglobalhealth.org. Our goal is to help prepare a new generation of veterinarians with a more global outlook and a better appreciation of the impact of veterinary medicine on development and growth, more so in rural communities in low or middle-income countries. By offering courses on campus and abroad, we want to empower the curriculum with a global perspective of the veterinary profession, as well as with a humanist education that can help students recognize the importance of respect for cultural differences and the reasons for different degrees of development and growth in the world (Collier, 2007).

2. International programs

At UF, students with interest in developing a more global perspective as a future veterinarian working in private or public practice in the United States or abroad can participate at one or several levels in our international programs.

2.1. Level 1 (on campus)

2.1.1. VEM Seminars in International Veterinary Medicine

At this basic level, students can participate in the Seminar Series in International Veterinary Medicine. This is an elective course (VEM 5931; 1 credit; pass/fail; spring semester) that was implemented in 2002. All students (Freshman, Sophomores, Juniors, Seniors) can enroll for credit. The objective of this course is to enhance the international profile of the College by creating a forum for discussion of global health issues of veterinary importance. Students, interns, residents, faculty and outside speakers with veterinary work-experience abroad are invited to deliver a seminar presentation related to one specific topic relevant to the public and the veterinary profession. In 2005, we started using Internet Protocol (IP) technology (polycom; real/time video-conference) to webcast seminar presentations to/from other universities in the USA and abroad. The objective of this initiative is to create a more global forum for discussion with student participation from UF and other universities. From 2002 to 2008, we have had seminar presentations covering a wide range of veterinary topics in many countries including: Argentina, Australia, Brazil, Colombia, Costa Rica, Cuba, Chile, China, Ecuador, France Haiti, Japan, Mexico, Mongolia, Nicaragua, Nigeria, Panama, Russia, Uganda, Uruguay and Venezuela. During this 7-year period, a total of 271 students signed up for credit in this course (Table 1). The seminars are scheduled on Wednesdays, from 6.00 to 7.00 p.m. There is a social gathering prior to the presentation from 5.30 to 6.00 p.m. Appendix A shows the seminars’ schedule for the spring semester in year 2008.

2.1.2. Spanish for Veterinarians

Today, many pet owners and farm workers in Florida speak limited English, and we believe animal care can be enhanced with better communication. Having a good basic knowledge of Spanish can help the patient, the owner, the veterinarian and her/his practice. The OIP offers the introductory course Spanish for Veterinarians. This course is offered during the fall semester (pass/fail; must attend 12 of 15 two-hour sessions). Classes are scheduled on Tuesdays from 6.00 to 8.00 p.m. The instructor is Ms. Victoria Condor-Williams, native of Peru, who has 10 years of experience teaching Spanish to health professionals at the UF Health Science Center.

2.2. Level 2 (abroad)

2.2.1. Student safety

Student safety is very important. First, we follow current US State Department and UF guidelines for international travel. Second, we observe CDC guidelines for travel. Third, we work in close collaboration with university public health officials to make sure students are protected with vaccination or medication necessary to mitigate potential public health risks in the country of interest. In addition, students must provide proof of medical insurance and must purchase emergency evacuation insurance available at the UF International Center. Fourth, we work with serious institutions and scholars abroad: safe housing, transportation, and phone communication are three key aspects of safety that are fully discussed and incorporated in structured, study abroad initiatives.

2.2.2. VEM 5506 International Veterinary Medicine

This is an elective course (1 credit) which was implemented in 1999. It is offered annually to all students (Freshman, Seniors, Juniors, Seniors) during spring break and/or the summer semester. The main goal of this course is to develop an awareness of the impact that veterinary medicine has on the health and well-being of people and animals in foreign countries. Another goal is for veterinary students to experience the realities of working in a developing country with all of the uncertainties and discomforts that such a situation may imply. Another important aspect of this course is for our students to further develop their capacity, ability and sensitivity to communicate with people in a different country, and to work as a veterinarian in a different cultural, social, economical, political, religious, and technological environment. During 1999–2008, a total of 130 students participated in this course in several countries including Argentina, Bosnia, Cuba, Chile, Honduras, Mexico, and Uganda (Table 2).

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of students enrolled</th>
<th>VEM 5931 instructors mean</th>
<th>College mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>49</td>
<td>4.9</td>
<td>4.2</td>
</tr>
<tr>
<td>2003</td>
<td>36</td>
<td>4.8</td>
<td>4.2</td>
</tr>
<tr>
<td>2004</td>
<td>30</td>
<td>4.8</td>
<td>4.1</td>
</tr>
<tr>
<td>2005</td>
<td>33</td>
<td>4.8</td>
<td>4.1</td>
</tr>
<tr>
<td>2006</td>
<td>52</td>
<td>4.6</td>
<td>4.2</td>
</tr>
<tr>
<td>2007</td>
<td>37</td>
<td>4.8</td>
<td>4.2</td>
</tr>
<tr>
<td>2008</td>
<td>34</td>
<td>3.8</td>
<td>4.2</td>
</tr>
<tr>
<td>Total</td>
<td>271</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 VEM 5931 Seminars in International Veterinary Medicine: student enrollment and course evaluations (2002–2008).

Fourth, we work in close collaboration with serious institutions and scholars abroad: safe housing, transportation, and phone communication are three key aspects of safety that are fully discussed and incorporated in structured, study abroad initiatives.

2.2.2. VEM 5506 International Veterinary Medicine

This is an elective course (1 credit) which was implemented in 1999. It is offered annually to all students (Freshman, Seniors, Juniors, Seniors) during spring break and/or the summer semester. The main goal of this course is to develop an awareness of the impact that veterinary medicine has on the health and well-being of people and animals in foreign countries. Another goal is for veterinary students to experience the realities of working in a developing country with all of the uncertainties and discomforts that such a situation may imply. Another important aspect of this course is for our students to further develop their capacity, ability and sensitivity to communicate with people in a different country, and to work as a veterinarian in a different cultural, social, economical, political, religious, and technological environment. During 1999–2008, a total of 130 students participated in this course in several countries including Argentina, Bosnia, Cuba, Chile, Honduras, Mexico, and Uganda (Table 2).
2.2.2.1. Honduras. The objectives of this course are (i) to understand the role that veterinarians serve in evaluating, preventing and controlling disease in dogs and cats; (ii) to understand the relationship between local/island human populations and their domestic animals in Roatan; (iii) to participate in physical examinations of dogs or cats presented for veterinary care, vaccinations, and treatment of parasitic diseases; and (iv) to help design a population management program for stray dogs and cats on the island of Roatan. This island was chosen in part because of the interest and willingness of local veterinarians and the community, and because the environment in this island enables students to better understand the role that veterinarians serve in evaluating, preventing and controlling animal diseases in a country with very limited financial resources. In the future, we hope to improve this course by (i) increasing the amount of time that students spend on education for the community (e.g., handouts and public service announcements) before the actual course (on-site) starts; (ii) improving the safety of surgeries (primarily the anesthesia—more access to inhalants); (iii) increasing the number of veterinary clinics offered through this course on the island; and (iv) increasing the number of animals examined during clinics without compromising quality of veterinary care.

2.2.2.2. Mexico. This course has been offered annually since 2001 in collaboration with the University of Yucatan and the Ministry of Health in Yucatan, Mexico. The course takes place one week in March each year. The main objective of this course is to know the role that medical doctors, nurses, volunteers, veterinarians and people play in the delivery of public health services in rural Yucatan. Specific objectives are: (i) to assist the Ministry of Health in animal control education efforts and provide animal control services such as spay/neuter for dogs and cats; and (ii) to assist the Ministry of Health in vaccination efforts against rabies in dogs and cats. In addition, students have the opportunity to explore the Mayan culture by touring the ancient Mayan city of Chichen Itza under the guidance and assistance of a faculty member or a graduate student from the University of Yucatan’s Department of Anthropology. During 2001–2008, veterinary students from UF, University of Georgia, Colorado State University, Virginia-Maryland Regional College of Veterinary Medicine, and the University of Yucatan have worked together in a rural community with a history of rabies in dogs. The human population is approximately 2500 people in about 600 households with 600 owned dogs. With a reduced health budget, sustaining progress in vaccination efforts against rabies in the near future will be an important challenge. The rabies program is administered by the Ministry of Health, where other health issues such as malnutrition, gastro-intestinal and respiratory disease in infants, obesity, diabetes and heart disease in adults, as well as access to oral health have a higher priority than rabies.

2.2.2.3. Uganda. This course was offered in 2004 and 2006. UF veterinary students have worked at Kibale National Park in Uganda under the supervision of parasitologist Dr. Ellis Greiner. Students have had the opportunity to participate in field studies designed to examine the relationship between habitat type and gastro-intestinal helminth infections in forest-dwelling olive baboons (Papio anubis) (Bezjian et al., 2008). This international work has been conducted in collaboration with faculty from McGill University (Montreal, Canada) and the University of Illinois. Dr. Greiner will retire soon and will not continue working in Uganda.

2.2.3. VEM 5893 International Externship

This course (2 credits) was implemented in 2001. It is offered to Junior and Senior students only. From 2001 to 2005, 4 students enrolled for credit and traveled to Brazil, Canada, Ecuador and Spain to participate in clinical and public veterinary externships.

2.3. Level 3 (on campus and abroad)

2.3.1. Certificate in International Veterinary Medicine

For the most ambitious student in international education, the OIP offers a Certificate in International Veterinary Medicine. This is a 15-credit program that can be completed parallel to the DVM curriculum over a four-year period (Table 3). This level of international exposure is designed to challenge the veterinary student by participating in a veterinary problem in a foreign country in collaboration with local people, scholars, and institutions. This is an opportunity to apply state-of-the-art veterinary skills in combination with local knowledge.

The goal of this program is to foster a new generation of veterinarians who understand not only disease issues, but also that there are distinct cultural, social, economical, political, educational, scientific, religious and technologi-cal realities that contribute to the overall health and well-being of animal populations, as well as human progress worldwide. Students in this program participate by playing an active role in the delivery of veterinary services or through applied research in a foreign country in the
context of real-world situations. From 2003 to 2008, a total of 15 students were awarded the certificate in international veterinary medicine after completion of medical outreach or research projects in Argentina, Bosnia, Canada, Colombia, Chile, Ecuador (Lindholm et al., 2007), France, Indonesia, Uganda (Bezjian et al., 2008), or the United Arab Emirates under the supervision of UF faculty and scholars from participant institutions abroad.

2.3.2. Requirements for the Certificate in International Veterinary Medicine

(i) Students must be enrolled in the College of Veterinary Medicine DVM degree program, must demonstrate proficiency in a foreign language and complete a minimum of 15 semester credits of approved academic coursework.

(ii) The student must be in good academic and professional standing.

(iii) The student must identify a faculty adviser willing to provide guidance and assistance throughout the course of the certificate program (e.g. coursework and international externship).

Specific requirements are described below:

A. Foreign language proficiency

Proof of language proficiency may include one of the following:

(i) An acceptable SAT II foreign language examination score: ex, French > 510; German > 560; Latin > 530; Spanish > 420.

(ii) Successfully completing two semesters of sequential university-taught foreign language.

(iii) Successfully completing a college-sponsored veterinary conversational Spanish course.

Spanish for Veterinarians. This course is designed for students with little to no knowledge of the Spanish language, but wishing to acquire conversational skills. Vocabulary focuses on words used in a veterinary setting. This is a non-credit course that takes place over a 2-h time block, one evening per week for 15 weeks in the fall semester.

B. Approved academic coursework

Approved academic coursework consists of 8 credits of required courses and 7 credits of elective courses.

2.3.3. Required courses

2.3.3.1. VEM 5931 Seminars in International Veterinary Medicine (2 credits). This is a 1 credit repeatable course with a pass/fail grading system based on attendance. This course is taught annually during the spring semester. The course must be taken twice. International veterinary topics differ each year. Students have the option of taking Seminars a third time. If a third credit is completed, it will count as an elective course credit.

2.3.3.2. VEM 5904 Independent Study (2 credits). The objective of this course is to expand the student’s knowledge of the geography, history, cultural, socio-economical and political aspects of the country where the student will conduct her/his international externship— as part of the requirements to complete the Certificate in International Veterinary Medicine. Knowing the cultural aspects of the society of interest will help the student (i) communicate more effectively with local people on a day-to-day basis, (ii) have a better understanding of the dimension of local animal, public, or environmental health problems, (iii) have a better appreciation of the impact of her/his education or research project on that society. The student is responsible to conduct a literature review including at least 16 topics relevant to the country of interest and course objective. For example: (1) geography, (2) history, (3) demography, (4) political system, (5) justice system, (6) religion, (7) economy, (8) natural resources, (9) transportation, (10) telecommunications, (11) public health, (12) animal health, (13) environmental health, (14) education, (15) veterinary medicine education, (16) social issues: women, (17) men, (18) teenagers, (19) children, (20) immigration, (21) AIDS, (22) poverty, (23) animal control, (24) animal welfare, (25) historic or current...
events linked to the US, (26) US embassy, (27) other topics identified by the student and faculty supervisor as relevant. The student meets with the supervisor weekly or bi-weekly for guidance and assistance. The student is required to document her/his literature review on 12+ page report (typed, single-spaced). In addition, as part of the certificate requirement (seminar presentation with results of her/his international project), the student’s seminar presentation shall include relevant socio-economic and political aspects of the country where the international project was held.

Another option is to enroll in one of the approved non-veterinary elective courses listed under Appendix B (online or on campus at the University of Florida, online at the University of Georgia or the University of North Carolina). In addition, other courses can be considered and approved. Ideally, the student should select a course that will benefit her/him in the geographic region of interest (e.g., if a student intends to complete a 4-week international externship in Africa she/he should consider taking AFS 2002 Introduction to African Studies).

2.3.3.3. **VEM 5893 International Externship (Juniors and Seniors) (4 credits) (prerequisite: VEM 5904 Independent Study)**. Students are required to complete an education or research project in a foreign country (minimum of 4 weeks) under the supervision of a UF faculty member. Externship opportunities can be arranged in the area of veterinary clinical care, corporate veterinary medicine, government/regulatory medicine (USDA, military, public health organizations), and non-government organizations or humanitarian groups. Some externships are offered through the OIP; however, it is the student’s responsibility to acquire an externship that will provide experience in her/his particular area of interest. Although it is not required, students are highly encouraged to conduct a research project as part of their externship experience. In addition to fulfilling certificate requirements, this project may be used to satisfy the VEM 5991 Individual Investigation (Senior Project) requirement for the DVM degree. It is recommended this requirement be completed in a period of 4 consecutive weeks; however, two 2-week periods in the same location or same area of interest are also acceptable.

Students are required to deliver a seminar presentation with results of her/his international education or research project. The forum for the seminar presentation can be any one of the following options: (i) VEM 5931 Seminars in International Veterinary Medicine; (ii) UF CVM Phi Zeta Research Day; (iii) UF CVM Senior Project Day; (iv) another forum, symposium, or conference approved by the faculty supervisor.

2.3.4. **Elective courses**

Students are required to complete 7 credits of elective coursework related to veterinary medicine. A variety of approved elective courses are taught within the UF College of Veterinary Medicine. A list of approved courses is presented in Appendix B. The majority of the elective courses within the College are offered during the junior and senior year. In addition, several approved courses are offered outside the College via distance education.

---

Fig. 1. Number of students who signed for credit in the elective course VEM 5931 Seminar Series in International Veterinary Medicine and, later, in the Seminar Series in Global Health (Fall 2008). Fall 2008; blue bar = veterinary students (n = 24); grey bar = public health students (n = 25); emerald bar = pharmacy students (n = 50); green bar = medicine students (n = 1). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of the article.)

2.3.5. **Program supervision and certificate award presentation**

Supervision and oversight of academic credits earned is administered by the Associate Dean for Students and Instruction. International clinical, research, industry, or government externships are developed and overseen by the Director of the OIP. Students who successfully complete the requirements are awarded the International Veterinary Medicine certificate at the time their DVM degree is conferred.

2.4. **Outcomes assessment**

While the number of veterinary students enrolled in several programs in levels 1–3 presented here has increased over the last 10 years (Figs. 1 and 2), performance metrics to measure and assess student learning objectives have not been formulated, and this is an issue that needs to be addressed by the OIP in collaboration with the UF CVM curriculum committee. Two important questions are: (i) are veterinary students aware of globalization and (ii) are students globally competent? Feedback from new (certificate) graduates after one or two years in veterinary practice is that their international exposure during the curriculum helped them further develop their social, cultural, and communication skills—making them more competitive in the veterinary market (when applying for internships or open positions in
veterinary clinics, as well as when applying for scholarships in graduate programs, particularly in public health).

3. Student clubs

The UF College of Veterinary Medicine has several student clubs that serve as an outlet for gaining veterinary experience in an international setting. These student clubs include (i) Project HEAL (Health Extension and Learning); (ii) SIVO (Students for International Veterinary Opportunities); (iii) WZAAM (Wildlife, Zoological, and Aquatic Animal Medicine); and (iv) CVF (Christian Veterinary Fellowship). Members of these clubs have traveled to Central and South America, Africa, and Asia in an effort to enhance their international education.

The Christian Veterinary Fellowship (CVF) is a student chapter of Christian Veterinary Mission. The CVM was founded in 1976 by Dr. Leroy Dorminy, after hearing the request of a woman from Africa who was asked how veterinarians from developed countries could help those in developing countries. She said, “What we need is for you to come and teach us your skills that we might do for ourselves.” For those students who want to have an impact on the lives of others outside the United States by caring medically for their animals and by caring spiritually for their souls, CVF offers many opportunities to fulfill that need. Previously, UF students have traveled to Honduras, Mongolia, and Uganda to work with Christian Veterinary Mission veterinarians in a variety of disciplines. Recently, in 2007, three UF students and two University of Minnesota students traveled to Uganda to work with long-term missionary, Dr. Jean Reed. Students worked for two weeks on low-cost spay/neuter, vaccination campaigns against rabies in dogs and cats, and Newcastle disease virus in chickens, as well as in equine and bovine medicine, foreign animal diseases, epidemiology, client education, research, and local pharmacology using indigenous plants. Over 300 dogs and cats were vaccinated against rabies and over 3000 chickens were vaccinated against Newcastle disease virus. This work was done in cooperation with the Karamoja Christian Ethno-Veterinary Program (KACHEP), an NGO in Uganda founded in 1998, and for the Karamojong people in the Northeastern region in Uganda of the same name. The work with Dr. Jean Reed and KACHEP was approved as an externship (2 credits) in the UF veterinary curriculum.

4. New initiatives

4.1. Seminar in Global Health

In the fall semester of year 2008, a new seminar series in global health was implemented. This course is a collaborative effort by the UF Colleges of Dentistry, Medicine, Pharmacy, Public Health and Health Professions, and Veterinary Medicine. The seminar schedule is posted on the following website: www.ufglobalhealth.org. This is an elective course (1 credit) open to professional and graduate students from these five colleges. This initiative is designed to expose students to global health problems, where the solution may require an interdisciplinary approach. In addition, an important objective is for students in the health sciences to be more aware of the socio-economic and political realities that affect the health and disease status of different societies. Another important objective is for students to appreciate the wide spectrum of health issues that may affect human progress in communities, not just those that may be of interest to one discipline or one profession. For example, in the last 10 years, UF faculty and students from the 5 colleges listed above (as well as audiology, anthropology, nursing, geography) have worked independently in international medical outreach activities in Latin America and in the Caribbean. We hope that this initiative on campus will help develop a network of faculty and students to promote international medical outreach activities using an interdisciplinary approach. In its first year, this initiative attracted ~100 students who took this course for credit (1 from the College of Medicine; 50 from the College of Pharmacy; 25 from the College of Public Health and Health Professions; and 24 from the College of Veterinary Medicine).

4.2. Certificate in Global Health

We are in a good position to formulate a plan to create a certificate program in global health. Currently, the UF Colleges of Dentistry, Medicine, Pharmacy, Public Health and Health Professions, and Veterinary Medicine are working together to develop a new culture of one medicine. The new seminar series in global health offered to students by the five colleges listed above (see Section 4.1) is a first step in the right direction. We hope that this initiative will lead to further collaboration in the future by developing course-work in global health with academic activities on campus and abroad, which can lead to a certificate program in global health. The academic model used for the certificate program in international veterinary medicine has worked well. Ideally, a project to develop a certificate program in global health will require input from other disciplines, such as architecture, anthropology, business, design, economy, geography, and nursing to make this proposed program more complete and successful. This project is in line with the Master’s in Development Practice (MDP) program proposed by the International Commission on Education for Sustainable Practice. The MDP program is rooted in four main disciplines: health sciences, natural sciences and engineering, social sciences, and management (International Commission on Education for Sustainable Development Practice, 2008; Sachs, 2005). Veterinary medicine can play an important role in the health and nutrition aspects of development. For example, veterinarians can help in the design of sustainable animal food production systems, as well as in the control and prevention of diseases in food animals in rural communities. Epidemiologists can assist in the assessment of disease control and prevention programs, as well as poverty-fighting strategies around the world.

4.3. The joint DVM-MPH Program

In the fall 2007, the UF Colleges of Public Health & Health Professions and Veterinary Medicine launched a new joint DVM-MPH degree program www.mph.ufl.edu/programs/
collaborative/vet. Currently, a total of 16 veterinary students are enrolled in this program, and all students have an interest in having public health international exposure as part of their training. Developing a strategy to further develop a curriculum with a strong component in global health should be an institutional priority.

4.4. The Bacardi Family Lecture Series

Neonatal, infant, and child mortality, malnutrition, obesity, diabetes, HIV/AIDS, tuberculosis, malaria, dengue, maternal and child care, family planning and reproductive health, natural disasters and emerging epidemics (U.S.A.I.D., 2002), as well as animal diseases, food security and sustainable agriculture are health issues that can affect human progress in Latin America and the Caribbean. With reduced health budgets, sustaining progress in health care in the near future will be a major challenge to national public health and veterinary services. Currently, we are collaborating with the UF Center for Latin American Studies in developing a new graduate course entitled Health in Latin America and the Caribbean. This will be a new graduate-level course (2 credits) which will consist of a critical analysis of current and emerging health issues in Latin America and the Caribbean. The analysis will be focused on the epidemiology, policy, and strategies for meeting health challenges in Latin America and the Caribbean. The course will be coordinated with the Bacardi Family Lecture Series on Health in Latin America & the Caribbean sponsored by the UF Center for Latin American Studies and the UF Health Science Center. A group of distinguished international scholars and public health officials with professional experience in Latin America and the Caribbean will be invited to participate in this new course, which will be offered in the fall of 2009.

5. Internationalization of the curriculum and the American Veterinary Medical Association Council on Education

In the United States, many colleges/schools of veterinary medicine offer international programs or activities designed to provide international education opportunities for students on campus and abroad. However, these initiatives are not standardized. More importantly, international veterinary education is not identified by the American Veterinary Medical Association Council on Education as a key standard for accreditation of Colleges or Schools of Veterinary Medicine. Thus, college administrators may or may not consider international programs a high priority, affecting the level of funding assigned to promote international programs in the veterinary curriculum. Sustainability of international programs within veterinary colleges can be enhanced if the AVMA Council on Education recognizes the importance of globalization and its impact on veterinary education and the veterinary profession.

6. Conclusion

In the last 10 years, UF has seen a gradual development of the veterinary curriculum in the context of global education. Overall, students appreciate the international education opportunities that have been presented to them. Over the last year, we have witnessed a formal attempt from different disciplines in the health sciences to work together towards developing a new culture of one medicine, where students from different colleges in the health science center (Dentistry, Medicine, Pharmacy, Public Health, and Veterinary Medicine) have the opportunity to receive the same information and participate in class discussions together. We do not have student feedback yet on this new initiative, but we are very excited about the opportunities ahead to work together in education, research and outreach activities in the area of global health. Internationalization of the universities is a complex task. It is a process well beyond the current efforts presented here. It requires a network of universities open to collaborate in strategic efforts aimed at preparing students to compete and collaborate in today’s global society. Support from professionals with expertise in developing institutional policy and strategies, in the context of global education, is required to formulate, implement and evaluate university success on internationalization.

Conflict of interest

Dr. Jorge Hernandez and co-authors (Traci Krueger, Shielah Robertson, Natalie Isaza, Ellis Greiner, Darryl Heard, Amy Stone, Michelle Bellville, and Victoria Condor-Williams) do not have a financial or personal relationship with other people or organizations that could inappropriately influence or bias the paper entitled “Education of Global Veterinarians”.

Appendix A

VEM 5931 Seminars in International Veterinary Medicine Spring 2008

The objectives of this course are (i) to enhance our knowledge in global health issues of veterinary importance by creating a forum for presentation of faculty/resident/intern/student international activities and (ii) to facilitate education/research opportunities abroad for students.
Course Coordinator: Dr. Jorge Hernandez
Contact: hernandezj@vetmed.ufl.edu
Department: Large Animal Clinical Sciences
Name of Course: Seminars in International Veterinary Medicine
University Course Number: VEM 5931
Semester Credit Hours: 1 credit
Instructional Units: Seminar (16)
Total Contact Hours: 16
Grading: S/U grading, must attend 12 of 16 seminars
Exams: None
Other Assignments: No
Auditors Allowed?: Yes
Offered to: Freshmen, Sophomore, Junior, and Senior DVM students
Where: UF College of Veterinary Medicine, Lecture Hall B
When: Spring semester, Wednesdays, from 6.00 to 7.00 p.m.
Tentative Schedule: Spring 2008

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/9</td>
<td>Introduction</td>
<td>Jorge Hernandez</td>
</tr>
<tr>
<td>1/16</td>
<td>Teniasis-Cisticercosis (Taenia solium) in rural Mexico</td>
<td>Aline Schunemann</td>
</tr>
<tr>
<td>1/16</td>
<td>Animal welfare issues in working equids in Mexico</td>
<td>Aline Schunemann</td>
</tr>
<tr>
<td>1/23</td>
<td>UF VETMED Project Yucatan Animal health/welfare in horses</td>
<td>Stephanie King</td>
</tr>
<tr>
<td>1/30</td>
<td>UF MEDICINE Project Yucatan Hoy en tu comunidad</td>
<td>Judy Simms, Rhondda Waddell, Natalie Isaza, Sheila Robertson, Traci Krueger, Robert Lawrence, JH</td>
</tr>
<tr>
<td>2/6</td>
<td>UF VETMED Project Yucatan Towards One Medicine</td>
<td>Natalie Isaza, Sheila Robertson, Traci Krueger, Robert Lawrence, JH</td>
</tr>
<tr>
<td>2/13</td>
<td>Colorado State University presentation International Programs*</td>
<td>Mo Salman</td>
</tr>
<tr>
<td>2/20</td>
<td>University of Georgia presentation International Programs*</td>
<td>Corrie Brown</td>
</tr>
<tr>
<td>2/27</td>
<td>UC Davis presentation International Programs*</td>
<td>Josephine Afema</td>
</tr>
<tr>
<td>3/5</td>
<td>Virginia Tech &amp; Maryland University International Programs*</td>
<td>Bettye Walters</td>
</tr>
<tr>
<td>3/12</td>
<td>University Austral of Chile presentation Wildlife</td>
<td>Claudio Verdugo</td>
</tr>
<tr>
<td>3/19</td>
<td>Spring Break</td>
<td></td>
</tr>
<tr>
<td>3/26</td>
<td>UF VETMED Project Honduras Wildlife</td>
<td>Darryl Heard</td>
</tr>
<tr>
<td>4/2</td>
<td>UF VETMED student presentation: Uganda Wildlife</td>
<td>Michelle Bellville</td>
</tr>
<tr>
<td>4/9</td>
<td>USDA Intl Services: global health issues and career opportunities</td>
<td>John Shaw</td>
</tr>
<tr>
<td>4/16</td>
<td>Avian influenza in Indonesia</td>
<td>Sam Gibbs</td>
</tr>
<tr>
<td>4/16</td>
<td>Equine influenza in Australia in 2007: impacts and lessons</td>
<td>Sam Gibbs</td>
</tr>
</tbody>
</table>

* Seminar presentations via polycom (webcast, real-time, teleconference).

Appendix B

B.1. Approved non-veterinary elective courses

B.1.1. University of Florida
- Intro to African Studies, AFS 2002
- Global and Regional Economies, GEO 2500
- Introduction to Latin American History, LAH 2020
References


Jorge Hernandez is a Professor of Epidemiology at the University of Florida. In 2004 and 2006, he received the Distinguished International Educator Award by the University of Florida. He completed his veterinary degree at the University of Baja California in Mexico (1983), the Master’s in Preventive Veterinary Medicine program at the University of California at Davis (1985), and a PhD program in epidemiology at Colorado State University (1990). David Hird was his mentor at UC Davis. For many years, Hernandez and Hird have worked together in (veterinary epidemiology) education and capacity building efforts in Mexico. The creation of the Office of International Programs at the UF College of Veterinary Medicine in 2003 was inspired in many ways by the pioneering work of David Hird.