Florida Institute of Technology

ADDING A NEW COURSE TO THE CURRICULUM

This course is available for student registration only after the approval process has been completed.

SUBJECT BIO (Alpha Prefix (e.g., CSE)) COURSE NO. 4421 (Number Choice (e.g., 1301)) CREDIT HOURS 3 TERM TO BE ADDED TO THE FILE Spring 2007 (e.g., Fall 2006)

CLASS HOURS 3 LECTURE HOURS 3 LAB HOURS 0 CONTACT HOURS (CEU ONLY) ______

DEPARTMENT Biological Sciences (e.g., Computer Sciences) SCHEDULE TYPE Lecture (e.g., Lecture, Lab or Special Project)

- ☐ COLLEGE OF AERONAUTICS–23
- ☐ COLLEGE OF BUSINESS–24
- ☐ COLLEGE OF ENGINEERING–01
- ☐ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS–25
- ☒ COLLEGE OF SCIENCE–26
- ☐ UNIVERSITY COLLEGE EXTENDED STUDIES–27

COMPUTER TITLE *Restricted to 25 characters, including spaces* Neotropical Archeoecology

CATALOG TITLE Neotropical Archeoecology

CATALOG DESCRIPTION OF COURSE *Limited to 350 characters, including spaces*

Studying the impact of human activities on modern and past ecology. Students will integrate studies of regional archaeology with modern ecology to compare sites with and without past human impacts. Field techniques will include forest census in megadiverse environments, take sediment coring, and curation of specimens.

In addition, you may attach a course syllabus and/or more detailed description.

RESTRICTIONS

- ☒ Prerequisite BIO 4420 (Course Number)
- ☐ Corequisite ______ (Course Number)
- ☐ Prerequisite ______ (Course Number)
- ☐ Corequisite ______ (Course Number)
- ☐ Prerequisite ______ (Course Number)
- ☐ Corequisite ______ (Course Number)

GRADES TO BE ISSUED

- ☒ A, B, C, D, F
- ☐ A, B, C, D, F, CEU
- ☐ CEU
- ☐ S, U
- ☐ P, F
- ☐ Other ______

ADDITIONAL RESTRICTION ______ *(e.g., Major, Class Level, Department Head Approval)*

If this course replaces a course currently offered in BANNER, please indicate old course information

SUBJECT *Alpha Prefix (e.g., CSE)* ______ COURSE NO. *(e.g., 1301)* ______

APPROVALS: Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

Originator [signature]	*Date* 10/11/06	*Chair, Graduate Council*	*Date*
Department Head/Program Chair [signature]	10-11-06	OR	
Dean or Associate Dean [signature]	*Date* 10-13-06	*Chair, Undergraduate Curriculum Committee*	*Date*

CATALOG DIRECTOR

These changes/additions have been made for the ______ University/Extended Studies Catalog and entered into the BANNER term named above.

Catalog Director ______ *Date* ______

REGISTRAR'S USE ONLY

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SCARRES ______ Operator Init ______ Date ______

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Addition of New Course to the Curriculum: BIO 4421, 3 Credits
Instructor: Mark Bush (Biology)
Prerequisite: BIO 4420

Course title: Neotropical Archeoecology

Background: The past role of humans in tropical landscapes from Mexico to southern Brazil is hotly debated. This course will aim to introduce students to disturbed and undisturbed settings seen within the context of cultural change. The role of droughts in cultural turnover, e.g. the Mayan and Tiwanaku collapses, floods in the Moche collapse, and changing sea-level of human expansion into the Americas will be discussed while seeing the terracing of the Incas (if in Peru) or the field and reservoir systems of the Maya (if in Guatemala). This course can be run in many different settings and so it is not tied to a particular geographic location. The field skills that will be developed will depend upon location, but lake coring, bird census, and vegetation surveys will be central themes within a three week study program.

Course description: Studying the impact of human activities on modern and past ecology. Students will integrate studies of regional archaeology with modern ecology to compare sites with and without past human impacts. Field techniques will include forest census in megadiverse environments, lake sediment coring, and curation of specimens.

Required reading prior to departure:

Kricher, J. 1999. Neotropical Companion 2nd Edition
Fagan, B. 1999 Floods, Famines and Emperors,

Proposed Itinerary Peru 2007
Day 1: Fly Miami-Lima, make connection to Chachapoyas.
Day 2: Bird walk at dawn, Discuss archaeology reading, visit local museum of archaeology, Evening plant walk.
Day 3: Trek into lake site
Day 4-8: Take part in lake coring, bathymetric mapping, vegetation sampling, bird and large mammal survey around site.
Day 9: Trek out
Day 10: Fly to Lima. Visit Gold Museum and crypts
Day 11: Fly to Cuzco, Visit ancient monuments in Cuzco
Day 12: Visit Machu Picchu
Day 13: return from Machu Picchu
Day 14: fly down to Boca Manu and by river to Manu reserve in Peruvian Amazon
Day 15-16: Large mammal census, butterfly census techniques, hummingbird interactions.
Day 18-19: Return by river and truck to Cuzco.
Day 20: return to Lima
Day 21: Return to Miami.

Reading while in the field: Collection of papers for discussion yet to be determined, but would be 10 papers from primary literature or book chapters dealing with ecology and paleoecology of settings the students will experience. Thos listed below represent the readings to be undertaken for a trip to Peru (planned for 2007). NB these readings would be modified to avoid replication if a student selects one of these papers in the "Pre-Columbian Ecosystems" course. I would add a local study of the archaeology for the region, and I am still searching for a good one. Failing all else it would be a chapter on the rise of the Inca from Hemming's "Conquest of the Inca".

Brenner, M, Hodell, DA, Curtis, JH, Rosenmeier, MF, Binford, MW, Abbott, MB. 2001. Abrupt climate change and Pre-Columbian cultural collapse. In: Interhemispheric climate linkages, V Markgraf (Ed). Academic Press, San Diego, pp. 87-104.
Bush, M.B., Hansen, B.C.S., Rodbell, D.T. Seltzer, G.O., Young, K.R., León, B., Abbott, M.B., Silman, M.R., and Gosling, W.D. A 17,000 year history of Andean climatic and vegetation change from Laguna de Chochos, Peru. *Journal of Quaternary Science* **20:** 703-714
Chepstow-Lusty, A, Frogley, MR, Bauer, BS, Bush, MB. 2003. A late Holocene record of arid events from the Cuzco region, Peru. *Journal of Quaternary Science* **18**(6): 491-502.
Church, WB, Morales Gamarra, R. 2004. Tomb raiders of El Dorado: Conservation dilemmas on a "new" archaeological frontier in Peru. *The SAA Archaeological Record* **4**(1): 24-29.
Clark, D. B. 1996 Abolishing virginity. *Journal of Tropical Ecology* **33**, 385-392.
Denevan, W. M. 1996 A bluff model of riverine settlement in prehistoric Amazonia. *Annals of the Association of American Geographers* **86**, 654-681.
Erickson, CL. 2000. The Lake Titicaca basin: A pre-Columbian built landscape. In: Imperfect Balance, DE Lentz (Ed). Columbia University Press, New York, pp. 311-356.
Moy, CM, Seltzer, GO, Rodbell, DT, Anderson, DM. 2002. Variability of El Niño/Southern Oscillation activity at millennial timescales during the Holocene epoch. *Nature* **420**: 162-165.
Urrego, D.H. Silman, M.R. and Bush, M.B. The last glacial maximum: stability and change in an Andean cloud forest. *Journal of Quaternary Science* **20:** 693-701.
Van't Veer, R, Hooghiemstra, H. 2000. Montane forest evolution during the last 650 000 yr in Colombia: a multivariate approach based on pollen record Funza-I. *Journal of Quaternary Science* **15**: 329-346.