Summary of ESCI Faculty Meeting
9/15/06

The ESCI Faculty met 9/15/06 at 1:30 pm in ST-108. Present were: Thomas Naehr, Egon Weber, Jim Silliman, Philippe Tissot, Joe Fox, alberto Mestas-Nunez, Jennifer Smith-Engle, and Lee Smee. PENS Chair Joe Loter also attended. The following is a summary of the meeting.

Need more ESCI faculty to attend, especially from LSCI Department. There was general discussion on the need for more attendance from LSCI faculty. Fox and Smee attended, but it was noted that the LSCI faculty are now addressing several new Ph.D. programs which will fall within that department (Mar. Biol., Mar. Resources Mgt.) and their attention is necessarily being diverted away from existing programs to do this.

ESCI-BS 120+ Hour Curriculum. The ESCI-BS curriculum was approved for inclusion in the 2006-07 catalog with the following changes/decisions:

1. ESCI 3403 Meteorology (4 hrs) was retained as a Major Requirement.
2. ESCI 44xx Climate and Climate Variability (3 hrs) was approved as a new Major Requirement.
3. “Earth System Science” concentration will give students the choice of CHEM 3411 Org. Chem I or CHEM 4423 Phys. Chem I.
4. BIOL 2421 Microbiology added as a possible Designated Elective for “Marine and Coastal Resources” concentration.
5. ESCI 43xx Physical Oceanography will be a new 3-hour (3:0) elective for this degree plan.
6. BIOL 3428 Ecology added as a required “Policy and Regulations” concentration course.
7. BIOL 4405 Limnology and BIOL 4435 Biological Microtechniques eliminated from the list of Designated Electives for the “Environmental Health and Monitoring” concentration.
8. The degree will require 124 hrs (including 45 upper level hours) for the following concentrations: Earth System Science, Marine and Coastal Resources, Environmental Health and Monitoring, Policy and Regulations. The “4-8 Science Certification” concentration will require more and Philippe Tissot will finalize that.

The modified curriculum is attached; Philippe Tissot will work up final changes for the “4-8 Science Certification” concentration (what is included here may not be the final version).

NEW COURSE PROPOSAL: Cities on the Edge: Urban Ecology (Geography??) of the Coastal Bend-
ESCI 3xxx Honors course proposed by Ian MacDonald. Faculty informally approved offering this as a 3000-level general elective (i.e. non-Honors) for Spring 2007; they expressed concern that offering it only for Honors students would attract too few students. No formal action was taken as MacDonald was not available for comment. This course will go before the PENS faculty this Friday for action.
NEW COURSE PROPOSAL: ESCI 43xx Selected Topics Climate and Climate Variability – by Alberto Mestas-Nunez. Faculty approved offering this course, which will be required as part of the ESCI curriculum beginning Fall 2007. This course will go before the PENS faculty this Friday for action.
Environmental Science
BACHELOR OF SCIENCE

I. Overview
The mission of the Bachelor of Science program in Environmental Science is to educate students to succeed in their chosen careers, to transfer environmental knowledge to the community and to peers, and to provide an environmentally literate workforce and citizenry. The program would provide the environmental science major with a broad foundation in the sciences and mathematics, as well as specialized knowledge in marine and coastal resources, Earth system science, environmental health and monitoring, policy and regulations, and science education concentration areas. The environmental science curriculum would prepare students for career positions in environmental science or science education, or for further professional development.

II. Environmental Science Major
Students must select one of five Concentrations.

1. **Earth System Science** (includes monitoring, mapping, modeling, biogeochemical cycling, hydrogeology; also prepare students for the CMSS Ph.D. Program)
   - 124 hours required

2. **Marine and Coastal Resources** (includes living/nonliving resources, resource mgt, resource monitoring, mapping, remediation, etc. in marine/coastal environments)
   - 124 hrs required

3. **Environmental Health and Monitoring** (includes environmental health, monitoring, remediation, regulations)
   - 124 hours required

4. **Policy and Regulations**
   - 124 hours required

5. **4-8 Certification**
   - 137-138 hours required

CORE (48 HRS. TOTAL*)
Core must include the following:

- ESCI 1401 Env. Sci. I (incl. in Univ. Core) 4 hrs
- ESCI 1402 Env. Sci. II (incl. in Univ. Core) 4 hrs
- MATH 1442 Statistics for Life or MATH 2413 Calc I (Depends on concentration) 4 hrs

* Includes 3 upper-level hours

FOUNDATIONS (24 HRS TOTAL)
To be taken by all ESCI majors:

- BIOL 1406 Biology I 4 hrs
- GEOL 1403 Physical Geology 4 hrs
- CHEM 1311/1111 General Chemistry I 4 hrs
- CHEM 1312/1112 General Chemistry II 4 hrs
Choose one – depends on concentration: 4 hrs  
  PHYS 1401 Physics I  
  PHYS 2425 Univ. Physics I  
  GISC 1470 Geospatial Systems I 4 hrs

**MAJOR REQUIREMENTS**  (22 HRS TOTAL*)

Choose two (choice depends in part on concentration and further requires approval of faculty mentor) 8 hrs*

- BIOL 3443 Environmental Biology
- CHEM 4443 Environmental Chemistry
- GEOL 3443 Environmental Geology

ESCI 3351 Oceanography 3 hrs*.  
ESCI 3403 Meteorology 4 hrs*  
ESCI 43xx Climate and Climate Variability 3 hrs *  
ESCI 32xx Professional Skills 2 hrs*  
ESCI 4498 Internship 2 hrs*

*Includes 22 upper level hours

**CONCENTRATION**  (30 HRS TOTAL*)

*Includes 20 upper-level hours

**A."Earth System Science" Concentration .**  (30 HOURS TOTAL)

This concentration is appropriate for students preparing for careers in earth system science, meteorology, or other fields. Students preparing for graduate school are also encouraged to take additional hours in consultation with their faculty advisor. A minor in Mathematics is strongly recommended. By selecting MATH 3315 and Math 3470 students will be able to combine a minor in Mathematics with their major in Environmental Science.

- **Core (Must include MATH 2413 Calculus I)** 48 hrs (3*)
- **Foundations (must include PHYS 2425)** 24 hrs
- **Major Requirements** 22 hrs (22*)
- **Concentration:** 30 hrs (20*)

  - PHYS 2426 University Physics II 4
  - MATH 2414 Calculus II 4
  - MATH 3311 Linear Algebra 3*
  - MATH 3342 Appl. Prob. and Statistics 3*

  **One of the following:**
  - CHEM 3411 Organic Chemistry I or
  - CHEM 44323 Physical Chemistry I 4*

- **Designated Electives** 12 (12*)
  - At least 12 hours, selected from the following list, with approval of a student's faculty mentor; must include at least 12 upper-level hours:
    - BIOL 3428 Ecology
    - ESCI 43xx Physical Oceanography
MATH 2305 Discrete Mathematics
MATH 3315 Differential Equations
MATH 3470 Calculus III
GEOL 3442 Geomorphology
GEOL 4316 Marine Geoscience
GEOL 4411 Sediment./Stratigraphy
GEOL 4444 Hydrogeology
GISC 3421 Visualization
Approved elective 1-5 hrs