Brazil Study Abroad -- 2012 Summer II
Water Resources Engineering & Watershed Management
Dr. Conrad Heatwole, Virginia Tech  heatwole@vt.edu

July term (Sum II, 6 cr.)
• 12 US & 12 Brazilian students
• taught in English
  U.S. and Brazilian context of water resources management
• field trips: technical, cultural, fun
• cost: ~$2500 plus tuition
• scholarships available

In-depth cross-cultural experience without the language barrier
July-term Course

Water resources engineering and watershed management
6cr, Sum II term (July 1 – Aug 6, 2012)

Goals:
- Meaningful cross-cultural experience and understanding
- Courses to meet degree requirements
- New perspectives on water resources and engineering

Overview:
- US and Brazilian students and professors in integrated course
- In Brazil, taught in English
- Field trips for cultural, technical, and ecosystem background

heatwole@vt.edu  Dr. Conrad Heatwole, BSE Department, Virginia Tech
Water resource issues...

- Rural sanitation
- Sediment and pollutant transport
- Habitat & biodiversity
- Erosion control
- Irrigation
- Water supply
- Hydropower

[Images showing various water resource issues]
July-term Course

Water resources engineering and watershed management

6cr, Sum II term (July 1 – Aug 6, 2012)

Course focus:

- Water resources in the ecosystem, human uses and impacts, standards and regulation, management and policy
- Watershed management and assessment; monitoring and modeling
- Watershed hydrology; precipitation, runoff, and streamflow in engineering design
- Watershed modeling; concepts and experience with several models in current use: HEC-HMS and GWLF. Model application principles. Error and uncertainty.
- Classroom and field laboratory exercises

heatwole@vt.edu  Dr. Conrad Heatwole, Virginia Tech
July-term Course

*Water resources engineering and watershed management*

*6cr, Sum II term (July 1 – Aug 6, 2012)*

*Tentative schedule:*

July 1 – Arrive Santa Maria, Rio Grande do Sul
July 2-10 - Federal Univ. of Santa Maria (UFSM) –
    Language study; visit university and dept.
( July 10-12 possible visit to Iguazu Falls )
July 11-14 –Vitoria, Espirito Santo: main campus
    of Federal Univ. of Espirito Santo (UFES)
July 15-Aug 3 - course at Rive IFES campus
    with field trips on weekends
Aug 6 – arrive back in the U.S.

Pedra Azul, Espirito Santo, Brazil
Vitoria…
- Tropical, Southern hemisphere
- July = winter --- 65 to 80 deg
- Capital of Espirito Santo

Santa Maria…
- City of 300,000
- 7 universities
- Semi-tropical
- Capital of Rio Grande do Sul
July term at the Rive campus
Pizzaria near Ouro Preto

Dinner at Rive hotel

Churrasco by Brazilian students
Brazilian food ....

...Fabulous !!!
Field trips... *Water resource issues*
Field trips... *History and culture*

- Ouro Preto – historic center of gold mining and independence movement
- Caraca – 18th century school and monastery; nature preserve
- Vitoria – 16th century convent
Field trips... *Ecology and natural resources*

- Caparao National Park
- Mangrove ecosystem
- Linhares – Atlantic Forest preserve
- Tamar – sea turtle protection
- Itaunus State Park – *seashore sand dunes*
“The experience was wonderful. Thanks for the opportunity”

“It was great to learn to know new people. The students helped me overcome some bad paradigms I had about the American people.”

heatwole@vt.edu  Dr. Conrad Heatwole, BSE Department, Virginia Tech