

# Intermediate Level Courses

- Only pre-requisite: CSC-105
  - Provides sufficient amount of algorithmic thinking and elementary programming skill
- New courses, geared to broad audience
  - A non-major could take it as a terminal course
- Can satisfy General Education Requirement 😊
- Can apply towards IT major
- Not intended to count as upper-level CS elective
  - But CS majors would find these courses appealing anyway.

# General Ed Requirements

- Since 2008, Furman allows virtually any department to offer any type of GER course.
- Example areas we are targeting:
  - Human behavior (social sciences) ✓
  - Historical analysis ✓
  - Visual and performing arts
  - Literature
  - Health and wellness
- New courses must be approved by two faculty committees.

# Human behavior course

- CSC-272: “Big Data: mining, analytics and knowledge discovery”
- The use of algorithms and computing tools to mine large data sets for new knowledge, including the discovery of trends and predictions of outcomes. Examples from health, crime, bioinformatics, text, and social media.
- How data can reveal patterns of human behavior
- Various methodologies & case studies
- For some, it’s a follow-up to 105 offerings in business analytics or social media.
- Can prepare students for upper-level courses outside CS such as Social Psychology, Marketing, Sports Analytics, and GIS

# Historical Analysis course

- CSC-273: “History of technology and discovery”
- Historical survey of technology, invention, and science, and how these have affected society. How have scientific discoveries affected our understanding of the universe and our place in it? How have human needs driven people to invent technology and apply scientific principles to solve human problems?
- No “history of science” course yet existed at Furman
- Survey of both science and technology
- Climaxes with history of CS
- Large topic, could someday split into 2 courses if demand warrants.
- Labs: abacus, planetarium, slide rule, Fortran, Cobol

# Future course proposals

- Visual and performing arts
  - Computer music using Python
  - Inspired by keynote talk by Bill Manaris at CCSC-SE 2014
- Health science
  - Use technology to motivate people to exercise, give appropriate level of stimulation, tempo
  - Keep track of nutrition
- Literature
  - Computers in Science Fiction
  - Short stories, radio, TV, film
  - Already taught as a 3-week May term pilot project: we covered 35 stories

# Challenges

- To qualify a course as GER, must answer very specific questions on the curricular objectives.
  - e.g. History: What historiographical theories and historical analysis techniques will be used in the course?
- Need to “clear” your course with other departments
  - Meet with other department chairs; get their advice; tact
  - CS is an atypical department to offer a GER; proposal will be carefully scrutinized
  - An interdisciplinary connection helps, e.g. if the other department can see a future benefit
- Use existing GER courses as inspiration / model