GG 105: Review Sheet
Midterm 2 Exam – November 7, 2017

The midterm exam will be comprehensive and multiple-choice. This review sheet is a guideline only – there may be questions on the exam not specifically addressed here but covered in class, the assigned reading, or the homework.

**Things to help you study:**
- Class notes
- Homework assignments
- Assigned reading
- Animations posted on the class website
- This Review Sheet

**Mercury**
- Exploration: Mariner 10, Arecibo, Messenger
- Using radar to determine rotation rate (Doppler shift)
- Spin-orbit coupling of Mercury
- A solar day on Mercury and relation to orbital and rotation period
- Internal structure, especially the core
- Magnetic field observations
- Cratering on Mercury compared with the Moon

**Venus**
- Exploration: Venera, Magellan, Venus Express
- Rotation, orbit (day vs. year)
- Magellan mission – when, types of data set (radar, topography, etc.)
- Density, internal structure
- Atmosphere (composition) and surface conditions (temperature, pressure)
- Greenhouse effect
- Earth and Venus - similarities and differences in basic properties, processes
- Types of tectonics
- Radar images: what makes them bright or dark?
- Geography of Venus: plateaus, highlands, plains/lowlands
- Venus surface features: volcanoes, coronae, impacts
- Types of volcanoes (shields, pancake domes)
- Coronae: what are they?
- Craters: implications for surface age
- Mapping geology from radar images
Mars
- Northern-southern hemisphere differences
- General geography (names of major features)
- Moons
- Martian meteorites
- Ice Caps
- Remnant magnetization – Evidence for prior magnetic field
- Resurfacing events – age of north and south
- Current and recent missions (what have they discovered?)
- Seasons
- Evolution of Mars (magnetic field, climate)
- Evidence for past water

Asteroids, Meteors, and Comets
- Origin and ages
- Where they come from, orbit types
- Composition, sizes
- Exploration
- Meteor showers & relationship to comets
- Major impacts (Chicxulub, Meteor Crater)
- How they are collected (meteorites)
- Comet tails
- What they can tell us about the solar system