Earth Sciences 2205 - The Planets
Winter/Spring 2020

Instructor: James St. John *Office Hours:* Mon. & Wed., 2:15-3 PM, Founders Hall room 2160.
E-mail: stjohn.2 "at" osu.edu *Website*: http://www.jsjgeology.net/Home-page.html
Lectures: Tuesdays & Thursdays, 3:55 to 5:15 PM, Founders Hall room 2168.
Recommended textbook: Rother, D.A., N. McBride & I. Gilmour. 2018. *An Introduction to the Solar System, Third Edition*. Cambridge University Press. 434 pp.

Week

1 - Jan. 6-10	Tues. - Introduction to course, Field trip through the Solar System Thurs. - Intro. to the Solar System, sources of information, albedo
2 - Jan. 13-17	Tues. - Minerals, Rocks Thurs. - Volcanism, Sedimentation
3 - Jan. 20-24	Tues. - Impacts, impact structures, impact rocks Thurs. - Short lecture + **Exercise # 1** (Minerals)
4 - Jan. 27-31	Tues. - Orbits, distances, origin of the Solar System Thurs. - Planetary terminology, Sun
5 - Feb. 3-7	Tues. - Mercury Thurs. - Venus
6 - Feb. 10-14	Tues. - **Test # 1** Thurs. - Short lecture + **Exercise # 2** (Rocks)
7 - Feb. 17-21	Tues. - Earth Thurs. - Moon
8 - Feb. 24-28	Tues. - Mars & its moons Thurs. - Asteroid belt, Vesta, Ceres
9 - March 2-6	Tues. - Meteorites Thurs. - Jupiter
10 - March 9-13	Tues. - SPRING BREAK - no class Thurs. - SPRING BREAK - no class
11 - March 16-20	Tues. - Jupiter's moons Thurs. - Saturn
12 - March 23-27	Tues. - Saturn's moons Thurs. - **Test # 2**
13 - March 30-April 3	Tues. - Short lecture + **Exercise # 3** (Meteorites) Thurs. - Uranus & its moons
14 - April 6-10	Tues. - Neptune & its moons Thurs. - **Exercise # 4** (Impact rocks) (time permitting)
15 - April 13-17	Tues. - Pluto & its moons Thurs. - Distant dwarf planets, Comets
16 - April 20-24	Tues. - No class Thurs. - No class
17 - April 27-May 1	Tues. - **Final Exam**, 3:00 to 4:45 AM, 28 April 2020, Founders Hall room 2168.

Grading: Test 1 - 20%; Test 2 - 20%; Final exam - 40%; Exercises (4) - 5% each.

Final course grades: A = 92-100%; A- = 90-91%; B+ = 88-89%; B = 82-87%; B- = 80-81%; C+ = 78-79%; C = 72-77%; C- = 70-71%; D+ = 68-69%; D = 60-67%; E = below 60%.

Grade rounding - all final course grades are rounded following these examples:

Example: 79.45% = 79% = C+ Example: 79.50% = 80% = B-

In other words, .4999 & below always round down, and .5000 & above always round up.

"Points" - every exercise is equal in weight, although the number of points on each exercise differs. Points on tests are relative & are used purely for ease of grading. One point on a exercise does not in any way equal one point on a test. Course grades are computed using test & exercise percentage grades only.

Course grade formula: $(((T1+T2)/2)\cdot 0.4)+(Final\cdot 0.40)+(((E1+E2+E3+E4)/4)\cdot 0.20)$

Lectures: All students are expected to attend all lectures. No one is permitted regular attendance in lecture unless they are enrolled in the course. Students are expected to behave with respect for other students and for the instructor. ***This means no distracting conversations during lecture!*** This means no sleeping during lecture! This means no reading non-geology stuff in lecture! This means no doing homework for other classes during lecture! ***This means NO TEXTING OR OTHER ELECTRONIC DOOHICKEY STUFF!!*** The list of scheduled lecture topics is intended as a guide only, and is subject to revision. Some topics may be expanded or take longer, and other topics may be shortened or cut back a little.

Reading assignments: Suggested readings in the recommended textbook & any other readings will be indicated during lectures & posted at the course webpage. Two copies of the textbook are on reserve in the library (Warner Center).

Exercises: Four exercises are planned - they will be a lab-style exercise held in class on minerals, rocks, meteorites, and impact rocks. Dates for exercises **may be modified**, depending on the pace of the course during the term. If so, the changes will be announced beforehand, in class. Exercise # 4 may be canceled, if time does not permit.

Tests: Two tests will be given during the term, and 1 final exam will be given at the end of the term. All material covered in class and in assigned readings is potentially fair game for test and exam questions, unless otherwise indicated. No make-up exams will be given. The style of questions for the 2 tests and final exam will be a mixture of multiple choice, true-or-false, fill-in-the-blank, and short answer questions. I will make every effort to include only unambiguous questions. If students find any ambiguous questions, a case should be presented to the instructor for consideration.

Tests will start with "Name the World" - photos of planets and moons will be shown and students have to correctly identify the world that is depicted. Use the textbook & photos linked to at JSJ's website to familiarize yourself with each world.

Miscellaneous: OSU will provide this syllabus in other formats if requested.

Students who have special needs during the course should visit the Student Life Disability Services office (Warner Center room 226) and the testing center (Hopewell Hall room 88). Once approved, paperwork will be provided that can be shared with instructors. All of this should be done in a timely manner (= early in the term), so that instructors can make arrangements. Students who take tests in the testing center ***MUST*** tell the instructor before ***each*** test with a written note - otherwise, I will assume you take tests in class with everyone else.

Geology 2205 is a 3 credit hour general education program natural sciences/physical sciences course. The class will survey the Solar System's planets and moons, with focus on surface environments, dynamics, and the ability to host life. Classes in natural sciences/physical sciences provide: 1) an understanding of the principles, theories, and methods of modern science & the relationship between science and technology; 2) an understanding of the key events in the development of science; 3) a recognition that science is an evolving body of knowledge; 4) insights into the interdependence of scientific and technological developments; 5) a recognition of the social & philosophical implications of scientific discoveries; 6) an understanding of the potential of science and technology to address problems of the contemporary world.

Cheating will be reported to the dean and OSU's committee on academic misconduct.

Please don't ask for bonus points. If you can't handle the normal work, you can't handle extra work. The best way to do well is to attend every class, take good notes, do assigned readings, ask questions, and study diligently for tests. Please do yourself a favor and take your education and intellectual development seriously!