2024 – 2025 ASTRONOMY SYLLABUS
Instructor: Eric Wolgemuth

Credits 1 semester: 1.0 credit **Email:** wolgemuthe@psd401.net **Phone**: 253-530-1517

Please Note: I have 3 classes so I have reduced hours this year—typically 7:00 AM – 12:00 noon (plus evening observations)

Course Description Astronomy is a general high school science course which examines natural phenomena in the Universe, the Milky Way Galaxy and our own Solar System and their impacts on the human experience. We also have awesome astrophotography equipment that students will use to take photos of Deep Sky Objects and then process those images exactly the same way NASA does with Hubble and James Webb imagery. See our observing page HERE

Note: There are exceptional opportunities for several highly motivated students to work independently to learn all of our hardware, software and image processing. Those students will plan our observations, conduct those observations, make presentations to district elementary school classes and assist their student colleagues in all aspects of observing and image processing. Students should apply to me directly during the first two weeks of school.

Course Objectives **At the end of this course students will be able to:**

- Demonstrate understanding of the size and scale of our Solar System, the Milky Way Galaxy and the Universe
- Evaluate the origin, current state and future of the Cosmos (Cosmology)
- Evaluate the origin and current objects/members of the Milky Way galaxy and our Solar System
- Speak articulately about the presence (or absence) of life in the Universe (Astrobiology)
- Work within a team to design and conduct Deep Sky Object (DSO) observations using our viewing system:
  - Telescope, Astrophotography Camera, Tracking Camera, Auto-Focuser, Tracking System and all related software
- Work independently to process those images using photo imaging software
- Confidently use the Stellarium planetarium software
- Demonstrate understanding of the Electro-magnetic spectrum in terms of wavelength, frequency and similar attributes
- Evaluate the feasibility and inherent problems associated with a human Mission to Mars
- A list of course units is HERE

➢ **My philosophy of teaching is outlined in a fair amount of detail on my website HERE. Here are some highlights:**
  - I never grade on a curve.
  - Tests, grades, projects and astrophotography are graded equally on a points per item basis.
  - I never give a grade less than an F (50%)
  - I rarely give homework, when I do it is simply classwork we didn't finish during the day. Such work is not graded.

Materials

- ✓ A laptop or district issued Chromebook computer
- ✓ Mr. W Astronomy Classroom Website: https://misterwghhs.s3.amazonaws.com/index.html
- ✓ We will ALWAYS use pencils for classroom tests (I have plenty of spares!). I also have lots of paper for taking notes and spare notebooks too!
- ✓ We typically watch the entire movie "**Contact**" based on the book by Carl Sagan –The film does an outstanding job of relating the technical, societal and practical implications associated with humans coming into contact with an alien civilization.
- ✓ We often watch bits and pieces of the movie "The Martian" to get a 'flavor' of the surface of Mars and the difficulties associated with supporting human life there.

Assessments

Summative assessments are given at the end of each unit and make up the majority of the semester grade followed by projects and observations.

Communication
I love talking to parents, guardians, folks at home at anytime for any reason. My contact information is above.

Graded & Ungraded Quizzes
Quizzes are given approximately once every 2 weeks. It is important to note that some of those quizzes are 'formative' in that they are usually short quick assessments to take a quick snapshot of how the unit is progressing allowing me to make adjustments in my teaching.

Deep Sky Observations & Astrophotography:
Students will work with their teams and student leaders to design, conduct and process their Deep Sky Observations. Due to the nature of astrophotography, all observations will occur in the evenings. Students are required to attend and actively participate in at least one observation. We usually schedule between 12 – 15 observations per semester. Please keep in mind that in the Pacific Northwest when it gets clear at night it invariably gets cold. High humidity and low temperatures make it surprisingly and uncomfortably cold. Students are encouraged to over-dress appropriately (although they often ignore that advice, but only once!)

Homework
Students are encouraged to review their classwork from time to time at home and of course to prepare for tests and exams outside of class. We will (very occasionally) not finish coursework in class and I will ask students to complete that work at home. That daily work is learning time so students should be free to guess, hypothesize and speculate as appropriate and as such that work is not graded.

Re-Assessment
Retakes are available for most quizzes and tests. Additionally, if I'm uncomfortable with the level of a student's performance on a project or other written work I will conference with that student and request a second draft.

Classroom Expectations
Everyone in our class (including the teacher) are expected to: Show Respect, Make Good Decisions, Solve the Problem

Code of Academic Integrity:
Gig Harbor High School is first and foremost an academic community; its fundamental purpose is the pursuit of knowledge. Essential to the success of this educational mission is a commitment to academic integrity. Every member of our school community is responsible for upholding the highest standards of honesty. Students, as members of the community, are responsible for adhering to the principles and spirit of the following Code of Academic Integrity:

Academic Dishonesty Definitions:
Activities that have the effect or intention of interfering with education, pursuit of knowledge, or fair evaluation of a student's performance are prohibited. Examples of such activities include but are not limited to the following definitions:

1. **Cheating**: using or attempting to use unauthorized assistance, material, or study aids in examinations or other academic work or preventing, or attempting to prevent, another from using authorized assistance, material, or study aids. *Example*: using a cheat sheet in a quiz or exam.
2. **Plagiarism**: using the ideas, data, or language of another without specific or proper acknowledgment. *Examples*: Copying another person's program code, article, or computer work and submitting it for an assignment, cloning someone else's ideas without attribution, failing to use quotation marks where appropriate. Copying and pasting ANY information from the internet without proper attribution. Copying and pasting ANY information from another person or source without proper attribution.
3. **Facilitating academic dishonesty**: knowingly helping or attempting to help another violate any provision of the Code. *Example*: working together on a take-home exam, etc.

If a student is unsure whether his action(s) constitute a violation of the Code of Academic Integrity, then it is that student's responsibility to consult with the instructor to clarify any ambiguities.