GATEWAY TO SPACE

ASEN 1400   T&R 9:30 to 10:45 AM – ITLL 1B50   Fall 2019

Office Hours 10:45 – 11:45 (after class) or by appointment

Days To Launch →

Class #	Date	Day	DTL	Topics	Assignments	Speakers
1	08-27-19	T	74	**Class Introduction and Pictures (So starts the rollercoaster)**	**HW 01 & 08 Assigned** **G1 Spa Vis W@5PM (ITL 1B10)**	**Hanz Koehler & Chris Koehler**
2	08-29-19	R	72	**Spacecraft Overview – (Compressed)**	**HW 02 Assigned** **G2 Spa Vis R@5PM (ITL 1B10)**	**Chris Koehler**
3	09-03-19	T	67	**BalloonSat Overview + Request for Proposals:** *Functional Block Diagrams, Design Documents*	**HW 01 DUE** **HW 03 Assigned (Q?s 1 - 2)**	**Chris Koehler**
4	09-05-19	R	65	**HANDS-ON: Team Forming + Team Activity** **- - - > PROPOSAL Assigned (17 days) < - - -**	**HW 02 DUE** **HW 03 Assigned (Q?s 3 - 11)**	**Chris Koehler**
5	09-10-19	T	60	**HANDS-ON: Soldering 101 (Build and Blink)** *<Arduino's distributed to teams today for HW 04>*	**HW 03 DUE** **HW 04 & HW 05 Assigned**	**All Teams**
6	09-12-19 [web]	R	58	**HANDS-ON: In-Class Team Time**		**All Teams**
7	09-17-19	T	53	**HANDS-ON: Arduino – Part I (Type and Blink):** *All team members report for beginning of class*	**HW 04 DUE** **HW 06 Assigned**	**All Teams**
X1	09-17-19 6 – 9 PM	T	51	**HANDS-ON: Arduino Deep Dive (Sensors/SD Card):** *All team members present for first 75 minutes*	**HW 05 DUE**	**Team Representatives DLC 1B70**
8	09-19-19 9:20 Start	R	51	**REVIEWS: Conceptual Design Review (CoDR)** *<5 minute presentations & 5 minutes of Q/A>*	**Presentations DUE 7:00 AM**	**All Teams**
X2	09-22-19	SUN	48	**PROPOSALS DUE 10:00 AM**		**All Teams**
9	09-24-19 9:20 Start	T	44	**HANDS-ON: In-Class Team Time + Hardware Distribution** **>>> *Authority To Proceed (ATP) with Chris* <<<**	**HW 06 DUE**	**All Teams**
10	09-26-19	R	46	**Guest Lecture – "Solar System Exploration Missions"**	**HW 07 Assigned**	**Jim Paradise (Lockheed Martin)**
11	10-01-19	T	39	**Requirements Flow Down Process + Past Space Grant Student Teams**	**DD Rev A/B Assigned**	**Chris Koehler**
12	10-03-19	R	37	**Guest Lecture – "Systems Engineering"**	**HW 07 DUE**	**Jessica Brown (Lockheed Martin)**
13	10-08-19	T	32	**HANDS-ON: In-Class Team Time** – *Bring hardware Chris will be inspecting payloads*		**All Teams**
14	10-10-19	R	30	**HANDS-ON: In-Class Team Time** – *Bring hardware Chris will be inspecting payloads*		**All Teams**
15	10-15-19	T	25	**REVIEWS: Preliminary Design Review (PDR)** *<6 minute presentations & 3 minute of Q/A>*	**PDR Pres. DUE 7:00 AM**	**All Teams**
16	10-17-19	R	23	**Rocket History (Best Lecture in the History of Lectures)**	**DD Rev A/B DUE** **DD Rev C Assigned**	**Chris Koehler**
17	10-22-19	T	18	**HANDS-ON: In-Class Team Time** – *Bring hardware Chris will be inspecting payloads*	**MID-Semester Team Evaluations Assigned**	**All Teams**
18	10-24-19	R	16	**Launch Vehicles (2nd Best Lecture in the History of Lectures)**	**Mid Semester Team Evals DUE**	**Chris Koehler**
19	10-29-19	T	11	**HANDS-ON: In-Class Team Time** – *Bring hardware Chris will be inspecting payloads*	**Service Approvals DUE** **RFF Cards Assigned**	**All Teams**
20	10-31-19	R	09	**HANDS-ON - In-Class Mission Simulation Test** (*ON for the whole class*) **If Time = Spider**		**All Teams**
21	11-05-19 9:20 Start	T	04	**REVIEWS: Launch Readiness Review (LRR)** *<4 minute presentations & 4 minutes of Q/A>*	**LRR Presentations DUE 7:00 AM**	**All Teams**
22	11-07-19	R	02	**Launch Logistics**	**DD Rev C DUE 4:00 PM**	**Chris Koehler**
X3	11-08-19	F	01	**Final BalloonSat Weigh-in and TURN IN** *By appointment 8:00 AM to 2:00 PM @ Chris's Office DLC 2704*	**RFF Cards DUE**	**All Teams**
X4	11-09-19 5 AM – 4 PM	SAT	00	**Launch Day @ 6:50 AM @ Eaton, Colorado** *(Leave Boulder at 4:45 AM!)*	**Bad Weather Dates** **(11/10, 11/16, or 11/17)**	**All Teams**
23	11-12-19	T	+03	**Launch Recap and Report and Data Analysis Guidance**	**DD Rev D Assigned**	**Chris Koehler**
24	11-14-19 [web]	R	+05	**REVIEWS: Quick Look Post Launch Presentation**	**Presentations DUE 7:00 AM** **Bring Your Raw Flight Data**	**All Teams**
25	11-19-19 [web]	T	+10	**HANDS-ON: In-Class Team Time**		**All Teams**
26	11-21-19	R	+12	**Orbits and Mission Design**	**HW 08 DUE**	**Chris Koehler**
	11-26-19 11-28-19	T-R	+17 +19	**Fall Break – NO CLASSES – Fall Break**		
27	12-03-19	T	+24	**Guest Lecture – "The Next Big Thing in Space Part 1"**	**HW 09 Assigned**	**Dr. James Stuart**
28	12-05-19	R	+26	**Guest Lecture – "Orion Spacecraft and Career Advice"**	**Final Team Evals Assigned**	**Paul Anderson Lockheed Martin**
X5	12-07-19 8 AM – 1 PM	SAT	+28	**REVIEWS: ITLL Design Expo (8:00 AM – 1:00 PM)** *Open to the general public from 10:30 AM to 12:00 PM*	**1st Draft of DD Rev D & FINAL Team Videos DUE @ Judging**	**All Teams**
29	12-10-19	T	+31	**Space Grant Opportunities, Class Survey, and Team Videos**		**Chris Koehler**
X6	12-10-19 6 – 9 PM	T	+31	**REVIEWS: Final Presentations** *<8 minute presentations & 7 minutes of Q/A>*	**FINAL Presentations DUE @ 4:00 PM**	**All Teams DLC 1B70**
30	12-12-19	R	+33	**Final Class – Review and Discussion + Final Team Evaluations** **Bring all hardware**	**HW 10 DUE** **Final Team Evals DUE**	**Chris Koehler**
31	12-14-19 1:30 – 4 PM	SAT	+35	**REVIEWS: Community Service Activity Presentations**	**FINAL DD Rev D Due @ 7 AM**	**All Teams**

Legend:

11 - Lecture	(green)
04 - Guest	(yellow)
13 - Teams	(blue)
08 - Reviews	(gray)
06 - Extra	(orange)
18 - Attention	(pink/magenta)

NOTES: All "DUE" items are due electronically via email at **prof.koehler@gmail.com** by class time unless otherwise stated above. Items submitted after class begins or past the specified time, will be late and subject to grade penalty. Files must be emailable or brought to Chris on USB drive before time due.

All Subject lines of each email submitted for this class must follow the naming convention below:
Homework = "HW XX Lastname Firstinitial" Example = HW 01 Armstrong N (Attachments shall be in MS Word)
Team Documents = "DD rev Team Number" Example = DD C Team 04 (Attachments shall be in MS Word)
Team Presentations = "Review Team Number" Example = CDR Team 04 (Attachments shall be in MS PowerPoint)
Failure to use this naming convention will result in your email be deleted by a SPAM filter and may result in no credit or late penalties.

1 Minute Reports are DUE each day at the end of class. Please use your assigned number and printed form for proper credit. Attendance will be taken during each lecture. It is your responsibility to find and sign the attendance sheet before the end of class. If you need anything, please send an email with the word "HELP" in the subject. Email will be routed to the top of my email inbox.

Gateway to Space grades are based on a 100-point scale (1 point = 1% of total grade) and there is no curve. 50% of the points are based on individual contributions and 50% are based on team contributions. Grades will be posted to the website 4 to 5 times throughout the semester. A password will be given to each student to look up their grades on the website. You graded is earned not deserved. Points are divided as follows:

Individual Points/Grade Percentage		Team Points/Grade Percentage	
10%	Attendance (30) & 1 Minute Reports (30)	10%	Team Proposal
15%	Homework 1-7,9 (10%) + 8 (06%)	13%	Team Presentations (4)
05%	Spatial Visualization Test (Must pass to get 5%)	10%	Team Design Document (2 Revs)
05%	Community Service and Presentation	02%	Design Expo
15%	Individual Contributions & Participation on Team	15%	Final Presentation and Final Report
50%	Subtotal (You)	50%	Subtotal (Team)
50% + 50% = 100%			

University of Colorado at Boulder Recommended Syllabus Statements (08-01-2018)

Accommodation for Disabilities - If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition or injury, see Temporary Medical Conditions under the Students tab on the Disability Services website.

Religious Holidays - Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, if you have a religious obligation, please notify me via email of your schedule conflict at least two weeks before the obligation. See the campus policy regarding religious observances for full details.

Classroom Behavior - Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. For more information, see the policies on classroom behavior and the Student Code of Conduct.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation - The University of Colorado Boulder (CU Boulder) is committed to fostering a positive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (including sexual assault, exploitation, harassment, dating or domestic violence, and stalking), discrimination, and harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or cureport@colorado.edu. Information about the OIEC, university policies, anonymous reporting, and the campus resources can be found on the OIEC website. Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

Honor Code - All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the Honor Code Office website.