

GATEWAY TO SPACE

ASEN 1400/ASTR 2500

T&R 9:30 to 10:45 AM – ITLL 1B50

Spring 2018

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

Days To Launch

Class #	Date	Day	DTL	Topics	Assignments	Speakers
1	01-16-18	T	81	Class Introduction and Pictures (So starts the rollercoaster)	HW 01 & 09 Assigned Spatial Visualization Assigned	Hanz Koehler & Chris Koehler
2	01-18-18	R	79	Spacecraft Overview – (Compressed)	HW 02 Assigned Spatial Vis. DUE (JAN 22 5 PM)	Chris Koehler
3	01-23-18	T	74	BalloonSat Overview + Request for Proposals: <i>Functional Block Diagrams, Design Documents</i>	HW 01 DUE HW 03 Assigned (Q?s 1 - 2)	Chris Koehler
4	01-25-18	R	72	HANDS-ON: Team Forming + Team Activity <i>PROPOSAL Assigned (17 days)</i>	HW 02 HW 03 Assigned (Q?s 3 - 11)	Chris Koehler
5	01-30-18	T	67	HANDS-ON: Soldering 101 (Build and Blink) <i><Arduino's distributed to teams today for HW 04></i>	HW 03 DUE HW 04 & HW 05 Assigned	All Teams
6	02-01-18	R	65	HANDS-ON: Team Inclusive Activity		All Teams
7	02-06-18 <i>9:20 Start</i>	T	60	REVIEWS: Conceptual Design Review (CoDR) <i><5 minute presentations & 5 minutes of Q/A></i>	Presentations DUE 7:00 AM	All Teams
8	02-08-18	R	58	HANDS-ON: Arduino – Part I (Type and Blink): <i>All team members report for beginning of class</i>	HW 04 DUE HW 06 Assigned	All Teams
x1	02-08-18 <i>6 – 9 PM</i>	R	58	HANDS-ON: Arduino Deep Dive (Sensors/SD Card): <i>All team members present for first 75 minutes</i>	HW 05 DUE	Team Representatives DLC 1B70
x2	02-10-18	SUN	53	PROPOSALS DUE 12:00 PM		All Teams
9	02-13-18	T	53	Guest Lecture – “Solar System Exploration Missions”	HW 07 Assigned HW 08 Assigned	Jim Paradise (Lockheed Martin)
10	02-15-18 <i>9:00 Start</i>	R	51	HANDS-ON: In-Class Team Time + Hardware Distribution <i>>>> Authority To Proceed (ATP) with Chris <<<</i>	HW 06 DUE	All Teams
11	02-20-18	T	46	Requirements Flow Down Process + MUIRA (HASP) and RS-12 Student Teams	DD Rev A/B Assigned	Chris Koehler
12	02-22-18	R	44	Guest Lecture – “Systems Engineering”	HW 08 DUE	Jessica Brown (Lockheed Martin)
13	02-27-18	T	39	Guest Lecture – “Spacecraft Structures”		TBD
14	03-01-18	R	37	HANDS-ON: In-Class Team Time – Bring hardware Chris will be inspecting payloads	HW 07 DUE	All Teams
15	03-06-18	T	32	REVIEWS: Preliminary Design Review (PDR) <i><6 minute presentations & 3 minute of Q/A></i>	PDR Pres. DUE 7:00 AM	All Teams
16	03-08-18	R	30	Rocket History (Best Lecture in the History of Lectures)	DD Rev A/B DUE DD Rev C Assigned	Chris Koehler
17	03-13-18	T	25	HANDS-ON: In-Class Team Time – Bring hardware Chris will be inspecting payloads	MID-Semester Team Evaluations Assigned	All Teams
18	03-15-18	R	23	Launch Vehicles	Mid Semester Team Evals DUE	Chris Koehler
19	03-20-18	T	18	HANDS-ON: In-Class Team Time – Bring hardware Chris will be inspecting payloads	Service Approvals DUE RFF Cards Assigned	All Teams
20	03-22-18	R	16	HANDS-ON - In-Class Mission Simulation Test (ON for the whole class) IF Time = Spider	HW 09 DUE (Optional)	All Teams
	03-27-18 03-29-18	T-R	11 09	Spring Break – NO CLASSES – Spring Break		
21	04-03-18 <i>9:05 Start</i>	T	04	REVIEWS: Launch Readiness Review (LRR) <i><4 minute presentations & 4 minutes of Q/A></i>	LRR Presentations DUE 7:00 AM	All Teams
22	04-05-18	R	02	Launch Logistics	DD Rev C DUE 4:00 PM	Chris Koehler
x3	04-06-18	F	01	Final BalloonSat Weigh-in and TURN IN <i>By appointment 8:00 AM to 2:00 PM @ Chris's Office DLC 270A</i>	RFF Cards DUE	All Teams
x4	04-07-18 <i>5 AM - 4 PM</i>	SAT	00	Launch Day @ 6:50 AM @ Windsor, Colorado <i>(Leave Boulder at 4:45 AM!)</i>	Bad Weather Dates (04/9, 04/15, or 04/16)	All Teams
23	04-10-18	T	+03	Launch Recap and Report and Data Analysis Guidance	DD Rev D Assigned	Chris Koehler
24	04-12-18	R	+05	REVIEWS: Quick Look Post Launch Presentation	Presentations DUE 7:00 AM Bring Your Raw Flight Data	All Teams
25	04-17-18	T	+10	Orbits and Mission Design		Chris Koehler
26	04-19-18	R	+12	Guest Lecture – “Spacecraft Attitude Determination and Control”		TBD
27	04-24-18	T	+17	Guest Lecture – The Orion Spacecraft and Career Advice	HW 09 DUE (Actual) HW 10 Assigned	Paul Anderson (Lockheed Martin)
28	04-26-18	R	+19	Guest Lecture – “The Next Big Thing in Space”	Final Team Evals Assigned	Dr. James Stuart
x5	04-28-18 <i>8 AM - 1 PM</i>	SAT	+22	REVIEWS: ITLL Design Expo (8:00 AM – 1:00 PM) <i>Open to the general public from 10:30 to 12:00 PM</i>	1 st Draft of DD Rev D & FINAL Team Videos DUE @ Judging	All Teams
29	05-01-18	T	+25	Space Grant Opportunities, Class Survey, and Team Videos		Chris Koehler
x6	05-01-18 <i>6 – 9 PM</i>	T	+25	REVIEWS: Final Presentations <i><8 minute presentations & 7 minutes of Q/A></i>	FINAL Presentations DUE @ 4:00 PM	All Teams DLC 1B70
30	05-03-18	R	+27	Final Class – Review and Discussion + Final Team Evaluations Bring all hardware	HW 10 DUE Final Team Evals DUE	Chris Koehler
31	05-07-18 <i>4:30 – 7 PM</i>	WED	+33	REVIEWS: Community Service Activity Presentations + Extra Credit Final Exam (time permitting)	FINAL DD Rev D Due @ 1:00 PM	All Teams DLC 1B70

11 - Lecture
06 - Guest
11 - Teams
08 - Reviews
06 - Extra
18 - Attention

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 driver 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 being 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.

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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 5 to 7 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 1-8,10 (10%) + 9 (5%)	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 (08-18-2016)

If you qualify for accommodations because of a disability, please submit to your professor a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303-492-8671 or by e-mail at dsinfo@colorado.edu. If you have a temporary medical condition or injury, see [Temporary Injuries](#) guidelines under the Quick Links at the [Disability Services website](#) and discuss your needs with your professor.

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.**

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 differences of race, color, culture, religion, creed, politics, veteran's status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. 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](#).

The University of Colorado Boulder (CU Boulder) is committed to maintaining a positive learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct, discrimination, harassment or related retaliation against or by any employee or student. CU's Sexual Misconduct Policy prohibits sexual assault, sexual exploitation, sexual harassment, intimate partner abuse (dating or domestic violence), stalking or related retaliation. CU Boulder's Discrimination and Harassment Policy prohibits discrimination, harassment or related retaliation based on race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Individuals who believe they have been subject to misconduct under either policy should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127. Information about the OIEC, the above referenced policies, and the campus resources available to assist individuals regarding sexual misconduct, discrimination, harassment or related retaliation can be found at the [OIEC website](#).

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the [academic integrity policy](#) of the institution. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access, clicker fraud, resubmission, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code Council as well as academic sanctions from the faculty member. Additional information regarding the academic integrity policy can be found at honorcode.colorado.edu.