

ASTE-523 — Spring, 2025

*Reinventing Space:
Design of a Low-Cost, Near-Term,
Commercial Lunar Colony*

Administrative Information



Dr. James R. Wertz

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- **Class Participation** — 15%
 - Class participation is difficult in the televised class environment. It is also critical to getting the most out of the class and is required and will be graded
 - In class participants are strongly encouraged to ask questions and make comments
 - All participants are required to submit at least 3 questions or comments via E-mail within 48 hours after each class (send E-mails to jwertz@usc.edu with cc to Bhuvan Ravikumar at bravikum@usc.edu)
 - If your grade is borderline, class participation will be used as a decision criteria
- **Homework** — 25%
 - Due 1 week after it is assigned; can be 1 week late with 10% penalty
 - Is not accepted more than 1 week late
 - All homework should be submitted through the DEN Website.
- **Midterm** — 25%
 - Open book and open notes; will need calculator; computer is not allowed
 - Mostly numerical problems, short answers, or short essays
- **Final Report** — 35%
 - A substantial essay rather than a final exam
 - Intended to cover one of the course topics in more detail than occurred during the course
- **Class absences**
 - The press of work causes most of us to miss class from time to time
 - When that happens, it's your responsibility to make up what was missed by whatever process works best



- **There is no required course text**

- **Supplementary texts (not required)**

Wertz and Larson, *Reducing Space Mission Cost*, 1996. List \$66.00

Available to ASTE-523 participants for \$40*

Wertz, Everett, and Puschell, *Space Mission Engineering*, 2011. List \$149.00

Available to ASTE-523 participants for \$75*

- **Course Notes**

Course notes will be distributed electronically

- * Reduced price only for ASTE-523 participants available at the Microcosm Bookstore, www.astrobooks.com (bookstore@smad.com or 310-539-2306)
 - Special price for course text/supplements shown above and on next page
 - 5% discount on all book prices
 - Must identify yourself as an ASTE-523 participant
 - Cost includes tax (for text only), but not shipping



- **Note: None of the supplementary material is required. SME might be helpful for some of the homework.**
- **Supplementary Texts**
 - Wertz and Larson, *Reducing Space Mission Cost*, 1996. List \$66.00
Available to ASTE-523 participants for \$40*
 - Wertz, Everett, and Puschell, *Space Mission Engineering -- the New SMAD*, 2011.
List price \$149.00 ASTE Student Price \$75.00
 - Both books are available together from the Microcosm bookstore for \$100.00 for
ASTE-523 participants
- **Other Supplementary Material**
 - Sarsfield, *The Cosmos on a Shoestring*, 1998. Available at no cost at:
<http://www.rand.org/publications/MR/MR864>
 - London, *LEO on the Cheap—Methods for Achieving Drastic Reductions in Space Launch Costs*, 1994. Available at no cost at
http://www.dunnspace.com/leo_on_the_cheap.htm
 - *Annotated Bibliography on Reducing Space Mission Cost*. Available at no cost on
the course website (see page 6)



Government Policy on Space Exploration and Transportation

- Five relevant documents on ISU and government policy on space exploration and transportation are:
 - *ISU report on International Lunar Un.*, see chart 15 of notes for download, no cost from Moon Village Association, *The Lunar Commerce Portfolio*, first edition, 2022, electronic copy, no cost
 - US Space Exploration Policy (Jan. 13, 2004), available at <http://www.whitehouse.gov/news/releases/2004/01/20040114-3.html>
 - US Space Transportation Policy (Jan., 2005), available at <http://www.ostp.gov>
 - US National Space Policy (Oct. 6, 2006), available at <http://www.ostp.gov>
 - The DoD ORS Report to Congress (April 20, 2007), available at <http://www.responsivespace.com>



Course Website and Contact Information

Most of the course information (homework, grades, charts, and handouts) will be distributed on the course websites:

www.smad.com/aste523 and <https://courses.uscden.net>

E-mail addresses & Contact Numbers:

Instructor (Dr. James R. Wertz):	wertz523@smad.com Mobile: 310-529-2780
Administrator (Julie Jackson):	jjackson@smad.com Tel: 310-539-2306
Grader (Bhuvan Ravikumar):	bravikum@usc.edu Mobile: 213-551-7723

Homework All the Homework sets must be turned in through the DEN Website.

Class Participation comments should be E-mailed to **BOTH** the Instructor and the grader at the E-mail addresses above.



Preliminary Course Schedule

- Jan. 16 6:00 – 8:40 First class session
- Jan. 23 6:00 – 8:40 Regular class session – Guest speaker Robert Smith, SSI
- Jan. 30 6:00 – 8:40 Regular class session
- Feb. 6 6:00 – 8:40 Regular class session – Guest lecturer – Shirley Dyke, Purdue
- Feb. 13 6:00 – 8:40 Regular class session
- Feb. 20 6:00 – 8:40 Regular class session
- Feb. 27 6:00 – 8:40 Regular class session
- March 6 6:00 – 8:40 Regular class session
- March 13 Time TBD **Mid-Term — Process determined by DEN**
- March 20 6:00 – 8:40 **Spring Recess – no class**
- March 27 6:00 – 8:40 Regular class session
- April 3 6:00 – 8:40 Regular class session
- April 10 6:00 – 8:40 Regular class session
- April 17 6:00 – 8:40 Regular class session
- April 24 6:00 – 8:40 Regular class session
- May 1 6:00 – 8:40 Final class session
- May 8 Time TBD **Final Exam — There will be no final exam**