

Aerospace Physics at Metro State

The Metropolitan State College of Denver is developing a B.S. in Aerospace Physics. This degree program is a collaboration between the Aviation and Aerospace Science Department (AVS-AES) and the Physics Department (PHY). Students interested in pursuing a B.S. in the field of Aerospace Physics may do so through MSCD's Center for Individualized Learning – Individualized Degree Program (IDP). The IDP allows for a combination of suggested coursework across multiple departments with the flexibility to meet needs of individual students.

If you are interested in becoming a professional in the Aerospace Industry working in areas such as space exploration, planetary science, space commercialization, or space physics, then please contact our lead faculty and advisors!

Students must work with a faculty advisor as well as an advisor from the Center for Individualized Learning to ensure that the proposed IDP degree meets their own needs and those of the industry. You must also attend an Information Session at the Center for Individualized Learning: <http://www.mscd.edu/cil/gettingstarted/>.

Please contact:

- Dr. Jeff Forrest, Chair, Aviation & Aerospace Science Department (forrestj@mscd.edu)
- Dr. Kamran Sahami, Professor, Physics Department (ksahami@mscd.edu)
- Professor Jennifer Caine, Co-Chair & IDP Advisor, Aviation & Aerospace Science Department (cainej@mscd.edu)
- Center for Individualized Learning (<http://www.mscd.edu/~cil>)

MSCD Aerospace Physics

Please note: The courses taken by individual students may vary and will be agreed upon with the student's Faculty Mentor and Center Advisor. Courses with an XXXX course number are under development.

Note: a multicultural course is required; this could also be the History elective or an Arts & Letters elective.

Recommended coursework

Semester 1

ENG 1010 Freshman Composition: The Essay	3
MTH 1110 College Algebra	4
MTH 1210 Introduction to Statistics	4
SPE 1010 Public Speaking.....	3
<i>Subtotal</i>	<i>14</i>

Semester 2

CHE 1100 Principles of Chemistry	4
CHE 1150 Principles of Chemistry I Lab	1
-or- CHE 1800 General Chemistry I	(4)
CHE 1810 General Chemistry I Lab	(2)
AES 2050 Aviation History and Aerospace Development	3
ENG 1020 Freshman Composition: Analysis, Research and Documentation.....	3
MTH 1410 Calculus 1.....	4
<i>Subtotal</i>	<i>15(16)</i>

Semester 3

MTH 2410 Calculus II	4
PHY 2311 General Physics I	4
PHY 2321 General Physics I Laboratory	1
AES 3600 Space Flight Operations I ⁺	3
ECO 2010 Principles of Economics – Macro	3
<i>Subtotal</i>	<i>15</i>

Semester 4

MTH 2420 Calculus III	4
PHY 2331 General Physics II	4
PHY 2341 General Physics II Laboratory	1
COM 2610 Introduction to Technical Writing	3
GS Art & Letters elective	3
<i>Subtotal</i>	<i>15</i>

Semester 5

MTH 3420 Differential Equations	4
ECO 2020 Principles of Economics – Micro.....	3
PHY2711 Waves and Vibrations.....	4
PHY 2811 Modern Physics I	4
<i>Subtotal</i>	<i>15</i>

Semester 6

AES 3530 Aerodynamics ⁺	3
AES XXXX Spacecraft Design	3
PHY 3711 Physical Laboratory I	2
PHY 3011 Modern Physics II	3
PHI 1030 Ethics	3
<i>Subtotal</i>	<i>14</i>

Semester 7

AES 4601 Space Flight Operations II ⁺	3
AES XXXX STK Laboratory	4
PHY 3211 Analytical Mechanics	4
PHY XXX Planetary Geophysics	3
GS History elective.....	3
<i>Subtotal</i>	<i>17</i>

Semester 8

AES 4602 Aerospace Commercialized Operations ⁺	3
AES 4603 Aerospace Operations Systems Analysis and Design ⁺	3
PHY 490D General Relativity	3
PHY 4611 Computational Physics	2
AES XXXX Special Topics in Space Science – senior exp.	3
PHY 4921 Senior Seminar.....	1
<i>Subtotal</i>	<i>15</i>

Total 120 or 121

⁺ NOTE: Students completing AES 3530, 3600, 4601, 4602, 4603 will also earn an MSCD Certificate in Space Commercialization. This certificate will provide the student with knowledge to seek opportunity in an important and expanding part of the Colorado and national economy, as well as expand opportunities for those currently employed in the industry.