SPACE RESOURCES (SPRS)

SPRS501. SPACE RESOURCES FUNDAMENTALS. 3.0 Semester Hrs.  
(I, II) This course provides an overview of the space resources field,  
including the current knowledge of available resources in the Solar  
System, extraction and utilization systems under development,  
economic and technical feasibility studies, legal and policy issues,  
and space exploration architectures that may be enabled by utilizing  
exttraterrestrial resources in the near future. The course will build broad  
knowledge and develop confidence in problem solving in the space  
resources field. 8-week online course. 3 hours lecture; 3 semester hours.  
Prerequisite: Working knowledge of physical sciences, engineering  
fields, or economics at an advanced undergraduate level, with basic  
umerical analysis skills using a programming language or spreadsheet  
calculations.

SPRS502. SPACE SYSTEMS ENGINEERING. 3.0 Semester Hrs.  
This course conveys the fundamentals of the systems engineering  
process as applied to large, complex space systems. It is intended  
for graduate students with various backgrounds. The students will  
become familiar with full scope of the systems engineering process from  
requirements definition, system design, system analysis through system  
verification. The process will be illustrated with real-world examples from  
current space systems with an emphasis on systems relevant to the  
development of space resources. 8-week online course.

SPRS503. SPACE RESOURCES SEMINAR. 1.0 Semester Hr.  
(I, II) The Space Resources Seminar will engage students in the  
program with current research and developments related to space  
resources. Students will assess the importance and relevance to the  
space resources field in the near-, medium-, or long-term of topics  
covered in lectures presented by technical experts from a variety of  
disciplines. They will report and analyze events, news, and research  
publications and develop scientific, technical, and economic arguments  
for their impact and relevance to the space resources field, while also  
responding thoughtfully and critically to other students’ contributions.  
Students will synthesize the information presented during the entire  
course by contributing in teams to a final report with an analysis of the  
most important developments in the science, technology, economics and  
policy of space resources during the course period. 8-week online course.  
1 hour seminar; 1 semester hour.

SPRS504. ECONOMICS OF SPACE RESOURCES. 3.0 Semester Hrs.  
This course provides an overview of economics and business topics  
that are commonly found in the space industries. Students will build a  
base knowledge of economics, finance, and business issues that are  
relevant to space resource markets and industries. The big picture is  
to help provide perspective on what investors or the financial officers  
at companies are investing in and planning for in or around the space  
industry.

SPRS509. INDEPENDENT STUDY IN SPACE RESOURCES. 0.5-6  
Semester Hr.  
(I, II, S) Pilot course or special topics course. Topics chosen from special  
interests of instructor(s) and student(s). Usually the course is offered only  
once, but no more than twice for the same course content. Prerequisite:  
none. Variable credit: 0 to 6 credit hours. Repeatable for credit under  
different titles.

SPRS599. INDEPENDENT STUDY IN SPACE RESOURCES. 0.5-6  
Semester Hr.  
Students can do Individual research or special projects supervised by  
a faculty member. The student and instructor will agree on the subject  
matter, content, and credit hours. Prerequisites: Independent Study form  
must be completed and submitted to the Registrar.

SPRS707. GRADUATE THESIS / DISSERTATION RESEARCH  
CREDIT. 1-15 Semester Hr.  
(I, II, S) Research credit hours required for completion of Doctoral  
dissertation. Research must be carried out under the direct supervision  
of the student’s faculty advisor. Variable class and semester hours.  
Repeatable for credit. Prerequisite: Instructor approval.