DUAL M.S. SYSTEMS ENGINEERING/MASTER OF BUSINESS ADMINISTRATION

The mission of the Dual Degree MS in Systems Engineering/MBA program is to educate working engineers and scientists in the engineering and business disciplines that will make them leaders of highly complex technical endeavors within their sponsoring organizations.

The dual degree MS/MBA program confers two degrees upon its graduates: an MBA and an MS in Systems Engineering. Taking the dual degree program saves the student several courses compared to the two programs taken separately.

The dual-degree program is designed to be completed in approximately three years. Typically, the Systems Engineering classes are completed first, followed by taking the required classes in the MBA program.

Learning Outcomes

For the Systems Engineering M.S.

- Apply the fundamental principles of systems engineering to complex problems
- Become leaders of innovative technology projects and business
- Develop multidisciplinary skills to architect, design, and manage complex systems throughout their life cycle
- Apply principles of project management and lean engineering to improve operational efficiency
- Develop technical skills to model, analyze, and design integrated engineering systems

For the M.B.A.

- Possess the knowledge and skills to be able to apply key business concepts in organizational settings.
- Possess the knowledge and skills to manage in a global economy
- Possess critical thinking skills and the ability to integrate concepts.
- Have the ability to communicate effectively.
- Have the knowledge and skills to function effectively as members, managers, and leaders in the organizations in which they are employed.
- Be able to incorporate ethical reasoning, social responsibility, and sustainability in making decisions in their organizations.

Graduates will be able to incorporate ethical reasoning, social responsibility, and sustainability in making decisions in their organizations.

Admissions

Both the MBA Program in the College of Business Administration and the MS in Systems Engineering Program in the Frank R. Seaver College of Science and Engineering must accept students applying to the dual degree program for admission. Prospective dual degree students should apply first to the MS in Systems Engineering degree program. After receiving admission to the MS in Systems Engineering degree program and completing 12 semester hours towards the MS degree, students interested in the MS/MBA Dual Degree program should contact

the#Associate Director of Academic Affairs, Graduate Business Programs for admission to the MBA portion of the Dual Degree.

Eligibility for the dual degree program is based upon good academic standing (minimum GPA 3.0) in the M.S. in Systems Engineering program and approval from their respective Seaver College academic advisor. Students who plan to apply to the dual-degree program are required to complete all SYEG units (24 units total) before registering for any MBA courses (36 units total). The preferred start term for the MBA portion of the Dual Degree program is the fall term.

Graduation Requirements

(60 Semester Hours)

Students enrolled in the Dual Degree MS/MBA Program are jointly advised by their academic advisor for Systems Engineering in Seaver College and the MBA Program Director in the College of Business Administration. It is recommended that incoming students take 12 semester hours of Systems Engineering courses per fall and spring semester and complete the MS in year one of the dual-degree program, then begin the MBA curriculum in year two.

Dual degree students will take a total of 24 semester hours of Systems Engineering courses and 36 semester hours of MBA courses. 15 semester hours from the Systems Engineering courses will also count towards the emphasis/ concentration requirement for the MBA degree. 6 semester hours of the MBA courses that are taken as part of the MBA coursework will also count toward the MS in Systems Engineering. Separately, the MS degree requires 30 semester hours and the MBA degree requires 51 semester hours, for a total of 81 semester hours. The Dual Degree program lessens the load by 21 (15+6) semester hours.

The overall minimum GPA required for graduation is 3.0. Students who receive a grade of less than "B" in any 500-level course or a grade of less than "C" in any 600-level course will not have the course count toward their degree.

When the course requirements outlined below are completed, the student should submit an application for degree to be awarded both the MBA and the MS in Systems Engineering.

Suggested Curriculum Flowchart for the MS in Systems Engineering/MBA Dual Degree Program

Code	Title	Semester Hours
Year 1 (Summer, Fall, and Spring) [1]		
Select three of the following core Systems Engineering online courses:		9
SYEG 500	Systems Engineering	
SYEG 540	Systems Thinking: Major Tech Changes/Impacts	
SYEG 600	Advanced Systems Engineering and Program Management	
SYEG 640	Model Based Systems Engineering	
SYEG 650	Systems Architecture	
SYEG 668	Systems Engineering Modeling and Analysis	
Select three of the following core Engineering Project Management courses:		9
SYEG 510	Project Management	

SYEG 520	Engineering Leadership and Integrity	
SYEG 530	Lean Engineering and Management	
SYEG 557	Agile Development and Project Management	
SYEG 560	Introduction to Cybersecurity	
SYEG 576	Business Law for Engineers	
SYEG 577	Engineering Economics and Finance	
SYEG 600	Advanced Systems Engineering and Program Management	
SYEG 620	Manufacturing Processes and Quality Systems	
SYEG 673	New Product Design and Development	
SYEG 679	Startup Entrepreneurship and Managing Engineering Innovation	
Completion of one technical elective:		3
SYEG 520	Engineering Leadership and Integrity	
SYEG 530	Lean Engineering and Management	
SYEG 577	Engineering Economics and Finance	
SYEG 620	Manufacturing Processes and Quality Systems	
SYEG 679	Startup Entrepreneurship and Managing Engineering Innovation	
Capstone Project/Integrative Project Thesis Online		
SYEG 695	Preparation for Capstone Project	0
SYEG 696	Graduate Capstone Project	3
Subtotal		24
Year 2 [2]		
Fall Semester		
MBAW 6400	MBA Orientation	2
MBAA 6020	Financial and Managerial Accounting	3
MBAA 6030	Global Economic Structures and Systems	1.5
MBAA 6040	Managing Markets and Customer Relationships	3
MBAA 6050	Managing Operations	1.5
MBAA 6090	Managing Information Systems	3
Spring Semester		
MBAA 6010	Managing People and Organizations	3
MBAA 6060	Strategic Management	3
MBAA 6070	Managing Financial Resources	3
MBAA 6080	Data, Models, and Decisions	3
MBAW 6402	The Elements of Becoming A Strategic Leader	0
Summer Session		
Business & Society Core		3
MBA Elective		3
Spring Semester		
MBAA 6100	Managing International Business	3
MBAW 6307	Management Leadership Workshop: Planning Your Future	0
Summer Session		
MBAI 691	Comparative Management Systems (CMS)	3
Subtotal		
Total Semester Hours		62

Total Requirement: 36 semester hours + 15 semester hours from M.S. in Systems Engineering, satisfying the MBA degree requirement of 51 semester hours

[1]

Note: Systems Engineering coursework may only be substituted upon obtaining approval from the Frank R. Seaver College of Science and Engineering Dean's Office.