**ENGINEERING LABORATORY-BSEN** 

CALCULUS 1A

**ENGR1206** 

MATH1776

2

2

# ENGINEERING BACHELOR OF SCIENCE AEROSPACE TRACK

# Leading to a Bachelor of Science Degree in Engineering - Aerospace Track

The Bachelor of Science in Engineering program is accredited by the Engineering Accreditation Commission of ABET (https://nam04.safelinks.protection.outlook.com/?url=https %3A%2F%2Fwww.abet.org%2F&data=05%7C02%7Cmartelj %40wit.edu%7Cd407386338da4d9f0a6908ddde641bbd

%7C2af16cc576494528bc4d3d9b6f64c066%7C0%7C0%7C63891124376434(English Se %7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsllYiOilwLjAuMDAwMCIsllAppingspyse

%3D%3D%7C0%7C%7C%7C&sdata=F16rAJr%2F40hwmyWTNz %2FA8ZC5qqia9u2QVHj8%2BieGYE0%3D&reserved=0), under the Commission's General Criteria, with no applicable program criteria.

The Bachelor of Science in Engineering (BSEN) degree program is a four-year innovative curriculum providing students the flexibility to customize their engineering degree. This Engineering – Aerospace program is a Bachelor of Science in engineering focusing on the theory and methodologies related to the aerospace industry and applications.

## **Program Educational Objectives**

- Pursue a life of curiosity and passion to explore the diverse applications of engineering.
- Apply Engineering fundamentals with confidence and humility to develop innovative and effective solutions in a professional and ethical manner.
- Pursue professional development to meet and adapt to emerging and evolving engineering challenges.

#### **Student Outcomes**

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

First Year		
Fall Semester		Credits
ENGR1100	INTRODUCTION TO ENGINEERING	2

**EXPERIENCE** 

MATHITTO	CALCULUS TA	2
MATH1777	CALCULUS 1B	2
English Sequence		4
PHYS1250	ENGINEERING PHYSICS I	4
	Credits	16
Spring Semester		
ENGR1300	FIRST-YEAR ENGINEERING DESIGN	2
ENGR1406	APPLIED ENGINEERING ANALYSIS-BSEN	2
MATH1876	CALCULUS 2A	2
MATH1877	CALCULUS 2B	2
English Sequence*		4
ΆρἰρΙ <b>λ</b> Υβαβγβαβαβαβαβαβαβαβαβαβαβαβαβαβαβαβαβαβ	Oljo <u>einwhreterkangupjayso</u> cs II	4
	Credits	16
Second Year		
Fall Semester		
MATH2600	DIFFERENTIAL EQUATIONS & LINEAR SYSTEMS	4
CHEM1100	GENERAL CHEMISTRY I	4
ENGR2100	PROGRAMMING FOR ENGINEERS	4
MECH2400	APPLIED MECHANICS	4
	Credits	16
Spring Semester		
MATH2025	MULTIVARIABLE CALCULUS	4
MECH2270	THERMODYNAMICS	4
MECH2275	THERMODYNAMICS LAB	1
HSS Elective		4
MECH2300	ENGINEERING GRAPHICS	3
	Credits	16
Summer Semester		
COOP3000	OPTIONAL COOP EDUCATION	
	Credits	0
Third Year		
Fall Semester		
MATH2100	PROBABILITY & STATISTICS FOR ENGINEERS	4
MECH3100	ENGINEERING FLUID MECHANICS	4
MECH3550	AEROSPACE MATERIALS	4
Free Elective		4
	Credits	16
Spring Semester		
COOP3500	COOP EDUCATION 1	0
	Credits	0
Summer Semester		
ENGR3500	ENGINEERING JUNIOR DESIGN	4
MECH3880	GAS DYNAMICS & NUMERICAL METHODS	4
MECH3850	ENGINEERING DYNAMICS	4
Free Elective		4

### **Fourth Year**

#### **Fall Semester**

COOP4500	COOP EDUCATION 2	0
	Credits	0
Spring Semester		
ENGR5000	ENGINEERING SENIOR DESIGN I	4
MECH4010	AERODYNAMICS & PROPULSION	4
Free Elective		4
HSS Elective		4
	Credits	16
Summer Semester		
ENGR5500	ENGINEERING SENIOR DESIGN II	4
MECH4600	FLIGHT MECHANICS AND CONTROL	4
HSS Elective		4
Free Elective		4
	Credits	16
	Total Credits	128

#### **ENGL/HSS Note**

Students are required to complete:

- At least one course in Humanities: CSAS, HSSI, HIST, HUMN, LITR and PHII
- At least one course in the Social Sciences: CSAS, HSSI, COMM, ECON, ENVM, POLS, PSYC and SOCL
- The remaining course from either the Humanities or Social Sciences category.

Students with a three English course sequence may use the third English course to satisfy a Humanities requirement.

A minimum of 20 credits total, including English, humanities, and social science credit, is required to complete the humanities and social sciences graduation requirement.

Math Placement (https://catalog.wit.edu/academic-policies-procedures/ug/math-placement/) may alter the course schedule above.