ENGINEERING (BS)

Description

The B.S. in engineering provides the student with a fundamental knowledge of engineering science and prepares graduates for a variety of careers in industry and government, or for advanced study in engineering, business, or professional school.

Minimum Total Credit Hours: 127

Goals/Mission Statement

Program Educational Objectives

Graduates from the program, within 3-5 years after graduation, will:

- Meet or exceed the expectations of employers of general engineers;
- Continue their professional development by pursuing advanced study, including licensure and certifications if they so desire; and
- Continue their professional development by pursuing leadership opportunities and other positions of service in their profession and/or communities.

Student Outcomes

BSE students at the University of Mississippi should demonstrate the attainment of the following student outcomes:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. 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
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. 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
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Degree Requirements

The academic regulations for this degree program, as entered in the University of Mississippi Catalog, are in effect for the current or selected academic year and semester. The University of Mississippi reserves the right to

1. change or withdraw courses;
2. change rules for registration, instruction, and graduation; and
3. change other regulations affecting the student body at any time.

General Education

Code	Title	Hours
Select one of the following First Year Writing I courses:		3
HONR 1010	Freshman Honors I	
WRIT 1000	Introduction to College Writing	
WRIT 1010	First-Year Writing I	
Select one of the following First Year Writing II courses:		3
LIBA 1020	First Year Seminar	
WRIT 1020	First-Year Writing II	
HONR 1020	Freshman Honors II	
Select six hours of humanities from the following:		6
AAST 2010	African American Experience I	
AAST 2020	African American Experience II	
Classics (CLSC)		
English (ENGL 2220-2226)		
ISOM 2010	Introduction to Gender Studies	
ISOM 2020	Introduction to Queer Studies	
History (HIST)		
LIBA 2020	Interdisciplinary Humanities	
LIBA 3050	Humanities and the Experience of War	
LIBA 3120	Advanced Interdisciplinary Humanities	
Philosophy (PHIL)		
Religion (RELG)		
Southern studies (SSTU 1000-level)		
HONR 1010	Freshman Honors I [1]	
HONR 1020	Freshman Honors II [1]	
Select three hours of Fine Arts from the following: [2]		3
Art History (ARTH)		
Music (MUSC)		
Dance (DANC)		
Theatre Arts (THEA)		
LIBA 1300	Introduction to the Fine Arts	
LIBA 2040	Interdisciplinary Arts	
LIBA 3140	Advanced Interdisciplinary Arts	
MUSC 1010	Introduction to Music Literature	
MUSC 1020	Fundamentals of Music Theory	
MUSC 1030	Introduction to Music	
MUSC 1040	Introduction to World Music Cultures	
MUSC 1050	Music Theory and Analysis I	
DANC 2000	Dance Appreciation	
THEA 2010	Appreciation of the Theatre	
THEA 2020	Introduction to Cinema	
Total Hours		**15**

1 if not being used to fulfill composition requirements

2 Studio and workshop courses cannot be used to satisfy this requirement.

General Education II

Code	Title	Hours
MATH 2611	Unified Calculus & Analytic Geometry I	3
MATH 2612	Unified Calculus & Analytic Geometry II	3
MATH 2613	Unified Calculus & Analytic Geometry III	3
MATH 2614	Unified Calculus & Analytic Geometry IV	3
MATH 3530	Elementary Differential Equations	3
CHEM 1050	General Chemistry I	3
CHEM 1051	General Chemistry Laboratory I	1
CHEM 1060	General Chemistry II	3
CHEM 1061	General Chemistry Laboratory II	1
PHYS 2110	Physics for Science & Engineering I	3
PHYS 2120	Physics for Science & Engineering II	3
PHYS 2111	Lab Physics for Science & Engineering I	1
PHYS 2121	Lab Physics for Science & Engineering II	1
Total Hours		**31**

Major Requirements

Code	Title	Hours
ENGR 1010 & ENGR 1110	Engineering Fundamentals and Engineering Fundamentals Lab	5
CSCI 1056	Programming in Python	3
ENGR 2010 or MANF 2500	Computer Aided Design for Engineering Graphics/Solid Modeling	3
ENGR 3090	Statics	3
ENGR 3100	Engineering Analysis I	3
ENGR 3120	Mechanics of Materials	3
ENGR 3130	Introduction to Materials Science	3
ENGR 3140	Materials Science Laboratory	1
ENGR 3210	Thermodynamics	3
ENGR 3230	Fluid Mechanics	3
ENGR 3450	Engineering Economy	3
ENGR 3600	Electric Circuit Theory	3
ENGR 3610	Electric Circuit Laboratory	1
ENGR 4000	Leadership & Professionalism in Engineer	1
ENGR 4310	Fundamentals of Systems Engineering	3
ENGR 4511	General Engineering Senior Design I	2
ENGR 4512	General Engineering Senior Design II	1
MANF 4600	Introduction to Project Management	3
Total Hours		**47**

Concentration - Aerospace Studies

Description

The emphasis in aerospace engineering provides a cross-disciplinary foundation in topics critical to the modern aerospace industry. The curriculum provides core knowledge in typical aerospace topics such as fluid mechanics and structures while also providing a foundation in digital architectures and programming, materials, and electrical systems. The curriculum appropriately prepares the student for either entry into the aerospace industry or to graduate education in aerospace-related fields. Electives can be selected under approval of the student's academic adviser to further a knowledge base in relevant aerospace areas such as flight mechanics, controls, and digital systems, and communications.

Degree Requirements

Code	Title	Hours
Select 18 hours of the following:		18
AERO 1010	Heritage and Values I	
AERO 1020	Heritage and Values II	
AERO 1050	Basic Training	
AERO 1110	AFROTC Leadership Laboratory I	
AERO 1120	AFROTC Leadership Laboratory II	
AERO 2010	Team & Leadership Fundamentals I	
AERO 2020	Team & Leadership Fundamentals II	
AERO 2110	AFROTC Leadership Laboratory III	
AERO 2120	AFROTC Leadership Laboratory IV	
AERO 3010	Leading People & Effective Comm I	
AERO 3020	Leading People & Effective Comm II	
AERO 3110	AFROTC Leadership Laboratory V	
AERO 3120	AFROTC Leadership Laboratory VI	
AERO 4010	Natl Security/Leadership/Commissioning I	
AERO 4020	Natl Security/Leadership/CommissioningII	
AERO 4110	AFROTC Leadership Laboratory VII	
AERO 4120	AFROTC Leadership Laboratory VIII	
Select 12 hours of approved engineering electives with 9 hrs at the 3000+ level chosen from:		12
ENGR 3400	Engineering Geology	
BMED 2000	Introduction to Biomedical Engineering	
BMED 2220	Biomaterials	
BMED 3010	Bioinstrumentation	
BMED 3110	Biomechanics	
BMED 3130	Physiology for Biomedical Engineering	
BMED 3140	Biomedical Measurement	
BMED 3330	Biological Transport	
BMED 3500	Immunoengineering	
BMED 3700	Intro to Bioinformatics & Biostatistics	
BMED 5100	Drug and Gene Delivery	
BMED 5230	Molecular and Cellular Biophysics	
BMED 5240	Microscopy for Engineers	
CHME 3071	Chemical Process Principles I	
CHME 3072	Chemical Process Principles II	
CHME 4130	Chemical Process Safety	
CHME 5200	Biochemical Engineering	
CHME 5210	Drug and Gene Delivery	
CHME 5220	Immunoengineering	
CHME 5230	Molecular and Cellular Biophysics	
CHME 5240	Microscopy for Engineers	
CIVE 2000	Surveying	
CIVE 2002	Civil Engineering Graphics I	
CIVE 3025	Intermediate Dynamics	
CIVE 3070	Environmental Engineering I	
CIVE 4072	Water Resources Engineering	
CSCI 1011	Computer Science I	

CSCI 1012	Computer Science II	
CSCI 3043	Fundamentals of Data Science	
ELEC 2350	Principles of Digital Systems	
ELEC 3310	Signals and Systems	
GEOE 3050	Geomechanics	
GEOE 4050	Engineering Geophysics	
MECH 3240	Introduction to Mechanical Design	
MECH 3250	Intermediate Dynamics	
MECH 4010	Thermo-fluid Dynamics	
MECH 4060	Alternative Energy Systems	
Select 6 hours of social sciences		6
Anthropology		
Economics		
LIBA 2030	Interdisciplinary Social Sciences	
LIBA 3130	Advanced Interdisc Social Science	
Political Science		
Psychlogy		
Sociology		
HONR 1010	Freshman Honors I	
HONR 1020	Freshman Honors II	
Total Hours		**36**

[1] if not being used to fulfill composition requirements

Concentration - Business Administration

Description

For students earning an emphasis in business administration, coursework is designed to prepare them for an MBA graduate program.

Degree Requirements

Code	Title	Hours
ACCY 2010	Introduction to Accounting Principles I	3
ACCY 2020	Introduction to Accounting Principles II	3
MKTG 3000	Marketing Principles	3
or MGMT 3000	Principles of Management	
BUSN 2300	Economic Statistics I	3
or ECON 2300	Economic Statistics I	
BUSN 2910	Legal Environment of Business	3
FINA 3000	Business Finance I	3
ECON 2020	Principles of Microeconomics	3
ECON 2030	Principles of Macroeconomics	3
Select 12 hours of approved engineering electives with 9 hrs at the 3000+ level chosen from:		12
ENGR 3400	Engineering Geology	
BMED 2000	Introduction to Biomedical Engineering	
BMED 2220	Biomaterials	
BMED 3010	Bioinstrumentation	
BMED 3110	Biomechanics	
BMED 3130	Physiology for Biomedical Engineering	
BMED 3140	Biomedical Measurement	
BMED 3330	Biological Transport	
BMED 3500	Immunoengineering	
BMED 3700	Intro to Bioinformatics & Biostatistics	
BMED 5100	Drug and Gene Delivery	
BMED 5230	Molecular and Cellular Biophysics	
BMED 5240	Microscopy for Engineers	
CHME 3071	Chemical Process Principles I	
CHME 3072	Chemical Process Principles II	
CHME 4130	Chemical Process Safety	
CHME 5200	Biochemical Engineering	
CHME 5210	Drug and Gene Delivery	
CHME 5220	Immunoengineering	
CHME 5230	Molecular and Cellular Biophysics	
CHME 5240	Microscopy for Engineers	
CIVE 2000	Surveying	
CIVE 2002	Civil Engineering Graphics I	
CIVE 3025	Intermediate Dynamics	
CIVE 3070	Environmental Engineering I	
CIVE 4072	Water Resources Engineering	
CSCI 1011	Computer Science I	
CSCI 1012	Computer Science II	
CSCI 3043	Fundamentals of Data Science	
ELEC 2350	Principles of Digital Systems	
ELEC 3310	Signals and Systems	
GEOE 3050	Geomechanics	
GEOE 4050	Engineering Geophysics	
MECH 3240	Introduction to Mechanical Design	
MECH 3250	Intermediate Dynamics	
MECH 4010	Thermo-fluid Dynamics	
MECH 4060	Alternative Energy Systems	
Total Hours		**36**

Concentration - Manufacturing

Description

Manufacturing Emphasis - This emphasis stresses manufacturing science and technology, while providing a cross-disciplinary foundation in business and accountancy to meet the need for qualified managerial and technical professionals in the rapidly expanding field of manufacturing. The curriculum provides core knowledge in engineering and manufacturing fundamentals with electives in accountancy, business, management information systems, and management and marketing. The student should consult with and obtain the approval of his/her academic adviser for the selection of the desired option courses.

Degree Requirements

Code	Title	Hours
MANF 1501	Intro to Engineering / Manufacturing	1
MANF 1502	Intro to Engineering & Manufacturing II	1
MANF 2510	Manufacturing Processes	3
MANF 2520	Product Realization Laboratory	1
MANF 2550	Lean I: Standardized Work & Takt Time	1
MANF 3250	Principles of Ops & Supply Chain Mgmt	3
MANF 3510	Manufacturing Product/Process Design	1
MANF 3530	Accounting & Financial Mgmt for Manf	3
MANF 3550	Lean II: Continuous Flow/Layout	1

MANF 4550	Lean III: Practical Problem Solving	3
ECON 2020	Principles of Microeconomics	3
ECON 2030	Principles of Macroeconomics	3
Select 12 hours of approved engineering electives with 9 hrs at the 3000+ level chosen from:		12
ENGR 3400	Engineering Geology	
BMED 2000	Introduction to Biomedical Engineering	
BMED 2220	Biomaterials	
BMED 3010	Bioinstrumentation	
BMED 3110	Biomechanics	
BMED 3130	Physiology for Biomedical Engineering	
BMED 3140	Biomedical Measurement	
BMED 3330	Biological Transport	
BMED 3500	Immunoengineering	
BMED 3700	Intro to Bioinformatics & Biostatistics	
BMED 5100	Drug and Gene Delivery	
BMED 5230	Molecular and Cellular Biophysics	
BMED 5240	Microscopy for Engineers	
CHME 3071	Chemical Process Principles I	
CHME 3072	Chemical Process Principles II	
CHME 4130	Chemical Process Safety	
CHME 5200	Biochemical Engineering	
CHME 5210	Drug and Gene Delivery	
CHME 5220	Immunoengineering	
CHME 5230	Molecular and Cellular Biophysics	
CHME 5240	Microscopy for Engineers	
CIVE 2000	Surveying	
CIVE 2002	Civil Engineering Graphics I	
CIVE 3025	Intermediate Dynamics	
CIVE 3070	Environmental Engineering I	
CIVE 4072	Water Resources Engineering	
CSCI 1011	Computer Science I	
CSCI 1012	Computer Science II	
CSCI 3043	Fundamentals of Data Science	
ELEC 2350	Principles of Digital Systems	
ELEC 3310	Signals and Systems	
GEOE 3050	Geomechanics	
GEOE 4050	Engineering Geophysics	
MECH 3240	Introduction to Mechanical Design	
MECH 3250	Intermediate Dynamics	
MECH 4010	Thermo-fluid Dynamics	
MECH 4060	Alternative Energy Systems	
Total Hours		**36**

Concentration - Military Science

Description

Students seeking an emphasis in military science will be assigned an adviser in both the Department of Military Science and School of Engineering.

Degree Requirements

Code	Title	Hours
Select 18 hours of the following:		18
MSLD 2010	Individual Leadership Studies	
MSLD 2020	Leadership and Teamwork	
MSLD 2030	Ranger Challenge	
MSLD 3010	Leadership and Problem Solving	
MSLD 3020	Leadership and Ethics	
MSLD 3400	American Military Experience	
MSLD 3990	Research Sem. in Mil. Sci. & Leadership	
MSLD 4010	Leadership and Management	
MSLD 4020	Officership	
INSS 1250	Introduction to Intelligence Studies	
Select 12 hours of approved engineering electives with 9 hrs at the 3000+ level chosen from:		12
ENGR 3400	Engineering Geology	
BMED 2000	Introduction to Biomedical Engineering	
BMED 2220	Biomaterials	
BMED 3010	Bioinstrumentation	
BMED 3110	Biomechanics	
BMED 3130	Physiology for Biomedical Engineering	
BMED 3140	Biomedical Measurement	
BMED 3330	Biological Transport	
BMED 3500	Immunoengineering	
BMED 3700	Intro to Bioinformatics & Biostatistics	
BMED 5100	Drug and Gene Delivery	
BMED 5230	Molecular and Cellular Biophysics	
BMED 5240	Microscopy for Engineers	
CHME 3071	Chemical Process Principles I	
CHME 3072	Chemical Process Principles II	
CHME 4130	Chemical Process Safety	
CHME 5200	Biochemical Engineering	
CHME 5210	Drug and Gene Delivery	
CHME 5220	Immunoengineering	
CHME 5230	Molecular and Cellular Biophysics	
CHME 5240	Microscopy for Engineers	
CIVE 2000	Surveying	
CIVE 2002	Civil Engineering Graphics I	
CIVE 3025	Intermediate Dynamics	
CIVE 3070	Environmental Engineering I	
CIVE 4072	Water Resources Engineering	
CSCI 1011	Computer Science I	
CSCI 1012	Computer Science II	
CSCI 3043	Fundamentals of Data Science	
ELEC 2350	Principles of Digital Systems	
ELEC 3310	Signals and Systems	
GEOE 3050	Geomechanics	
GEOE 4050	Engineering Geophysics	
MECH 3240	Introduction to Mechanical Design	
MECH 3250	Intermediate Dynamics	
MECH 4010	Thermo-fluid Dynamics	

MECH 4060	Alternative Energy Systems	
Select 6 hours of social sciences		6
Anthropology		
Economics		
LIBA 2030	Interdisciplinary Social Sciences	
LIBA 3130	Advanced Interdisc Social Science	
Political Science		
Psychology		
Sociology		
HONR 1010	Freshman Honors I	
HONR 1020	Freshman Honors II	
Total Hours		**36**

[1] if not being used to fulfill composition requirements

Concentration - Naval Science

Description

Students seeking an emphasis in naval science will be assigned an adviser in both the Department of Naval Science and School of Engineering.

Degree Requirements

Code	Title	Hours
Select 18 hours of the following:		18
NAVS 2110	Naval Leadership and Management	
NAVS 2120	Navigation	
NAVS 2150	Leadership Laboratory III	
NAVS 2160	Leadership Laboratory IV	
NAVS 3100	Evolution of Warfare	
NAVS 3120	Naval Ships Systems I (Engineering)	
NAVS 3130	Naval Ships Systems II (Weapons)	
NAVS 3150	Leadership Laboratory V	
NAVS 3160	Leadership Laboratory VI	
NAVS 3200	Fundamentals of Maneuver Warfare	
NAVS 4110	Amphibious Warfare	
NAVS 4120	Naval Leadership and Ethics	
NAVS 4130	Naval Operations and Seamanship	
NAVS 4150	Leadership Laboratory VII	
NAVS 4160	Leadership Laboratory VIII	
NAVS 4170	Leadership Laboratory IX	
Select 12 hours of approved engineering electives with 9 hrs at the 3000+ level chosen from:		12
ENGR 3400	Engineering Geology	
BMED 2000	Introduction to Biomedical Engineering	
BMED 2220	Biomaterials	
BMED 3010	Bioinstrumentation	
BMED 3110	Biomechanics	
BMED 3130	Physiology for Biomedical Engineering	
BMED 3140	Biomedical Measurement	
BMED 3330	Biological Transport	
BMED 3500	Immunoengineering	
BMED 3700	Intro to Bioinformatics & Biostatistics	
BMED 5100	Drug and Gene Delivery	
BMED 5230	Molecular and Cellular Biophysics	
BMED 5240	Microscopy for Engineers	
CHME 3071	Chemical Process Principles I	
CHME 3072	Chemical Process Principles II	
CHME 4130	Chemical Process Safety	
CHME 5200	Biochemical Engineering	
CHME 5210	Drug and Gene Delivery	
CHME 5220	Immunoengineering	
CHME 5230	Molecular and Cellular Biophysics	
CHME 5240	Microscopy for Engineers	
CIVE 2000	Surveying	
CIVE 2002	Civil Engineering Graphics I	
CIVE 3025	Intermediate Dynamics	
CIVE 3070	Environmental Engineering I	
CIVE 4072	Water Resources Engineering	
CSCI 1011	Computer Science I	
CSCI 1012	Computer Science II	
CSCI 3043	Fundamentals of Data Science	
ELEC 2350	Principles of Digital Systems	
ELEC 3310	Signals and Systems	
GEOE 3050	Geomechanics	
GEOE 4050	Engineering Geophysics	
MECH 3240	Introduction to Mechanical Design	
MECH 3250	Intermediate Dynamics	
MECH 4010	Thermo-fluid Dynamics	
MECH 4060	Alternative Energy Systems	
Select 6 hours of social sciences		6
Anthropolgy		
Economics		
LIBA 2030	Interdisciplinary Social Sciences	
LIBA 3130	Advanced Interdisc Social Science	
Political Science		
Psychology		
Sociology		
HONR 1010	Freshman Honors I	
HONR 1020	Freshman Honors II	
Total Hours		**36**

[1] if not being used to fulfill composition requirements

Concentration - Pre-Med Studies

Description

An emphasis in pre-med studies is intended to prepare students for further study in medical school.

Degree Requirements

Code	Title	Hours
BISC 1600	Biological Sciences I	3
BISC 1610	Biological Sciences I Laboratory	1
BISC 1620	Biological Sciences II	3
BISC 1630	Biological Sciences II Laboratory	1

CHEM 2210	Elementary Organic Chemistry I	3
CHEM 2211	Elementary Organic Chem. Laboratory I	1
CHEM 2220	Elementary Organic Chemistry II	3
CHEM 2221	Elementary Organic Chem. Laboratory II	1
Select two hours of Chem/Bisc @ 3000+		2
PSYC 2001	Introduction to Psychology	3
Select three hours of social science from the following:		3
Anthropology (ANTH)		
Economics (ECON)		
Political science (POLS)		
Psychology (PSYC)		
Sociology (SOCY)		
LIBA 2030	Interdisciplinary Social Sciences	
LIBA 3130	Advanced Interdisc Social Science	
HONR 1010	Freshman Honors I	
HONR 1020	Freshman Honors II	
Select 12 hours of approved engineering electives with 9 hrs at the 3000+ level chosen from:		12
ENGR 3400	Engineering Geology	
BMED 2000	Introduction to Biomedical Engineering	
BMED 2220	Biomaterials	
BMED 3010	Bioinstrumentation	
BMED 3110	Biomechanics	
BMED 3130	Physiology for Biomedical Engineering	
BMED 3140	Biomedical Measurement	
BMED 3330	Biological Transport	
BMED 3500	Immunoengineering	
BMED 3700	Intro to Bioinformatics & Biostatistics	
BMED 5100	Drug and Gene Delivery	
BMED 5230	Molecular and Cellular Biophysics	
BMED 5240	Microscopy for Engineers	
CHME 3071	Chemical Process Principles I	
CHME 3072	Chemical Process Principles II	
CHME 4130	Chemical Process Safety	
CHME 5200	Biochemical Engineering	
CHME 5210	Drug and Gene Delivery	
CHME 5220	Immunoengineering	
CHME 5230	Molecular and Cellular Biophysics	
CHME 5240	Microscopy for Engineers	
CIVE 2000	Surveying	
CIVE 2002	Civil Engineering Graphics I	
CIVE 3025	Intermediate Dynamics	
CIVE 3070	Environmental Engineering I	
CIVE 4072	Water Resources Engineering	
CSCI 1011	Computer Science I	
CSCI 1012	Computer Science II	
CSCI 3043	Fundamentals of Data Science	
ELEC 2350	Principles of Digital Systems	
ELEC 3310	Signals and Systems	
GEOE 3050	Geomechanics	
GEOE 4050	Engineering Geophysics	
MECH 3240	Introduction to Mechanical Design	
MECH 3250	Intermediate Dynamics	
MECH 4010	Thermo-fluid Dynamics	
MECH 4060	Alternative Energy Systems	
Total Hours		**36**

Concentration - Standard Option

Description

This emphasis is based on individually designed curricula that permit the student to obtain a strong background in engineering while simultaneously giving the student a broad education outside these areas of study. The 18 hours of emphasis courses must be organized around a coherent theme and must be pre-approved by the director of general engineering.

Degree Requirements

Code	Title	Hours
The 18 hours of emphasis courses must be organized around a coherent theme and must be pre-approved by the director of general engineering.		18
Select 12 hours of approved engineering electives with 9 hrs at the 300+ level chosen from:		12
ENGR 3400	Engineering Geology	
BMED 2000	Introduction to Biomedical Engineering	
BMED 2220	Biomaterials	
BMED 3010	Bioinstrumentation	
BMED 3110	Biomechanics	
BMED 3130	Physiology for Biomedical Engineering	
BMED 3140	Biomedical Measurement	
BMED 3330	Biological Transport	
BMED 3500	Immunoengineering	
BMED 3700	Intro to Bioinformatics & Biostatistics	
BMED 5100	Drug and Gene Delivery	
BMED 5230	Molecular and Cellular Biophysics	
BMED 5240	Microscopy for Engineers	
CHME 3071	Chemical Process Principles I	
CHME 3072	Chemical Process Principles II	
CHME 4130	Chemical Process Safety	
CHME 5200	Biochemical Engineering	
CHME 5210	Drug and Gene Delivery	
CHME 5220	Immunoengineering	
CHME 5230	Molecular and Cellular Biophysics	
CHME 5240	Microscopy for Engineers	
CIVE 2000	Surveying	
CIVE 2002	Civil Engineering Graphics I	
CIVE 3025	Intermediate Dynamics	
CIVE 3070	Environmental Engineering I	
CIVE 4072	Water Resources Engineering	
CSCI 1011	Computer Science I	
CSCI 1012	Computer Science II	
CSCI 3043	Fundamentals of Data Science	
ELEC 2350	Principles of Digital Systems	
ELEC 3310	Signals and Systems	

GEOE 3050	Geomechanics	
GEOE 4050	Engineering Geophysics	
MECH 3240	Introduction to Mechanical Design	
MECH 3250	Intermediate Dynamics	
MECH 4010	Thermo-fluid Dynamics	
MECH 4060	Alternative Energy Systems	
Select 6 hours of Social Sciences		6
Anthropology		
Economics		
LIBA 2030	Interdisciplinary Social Sciences	
LIBA 3130	Advanced Interdisc Social Science	
Political Science		
Psychology		
Sociology		
HONR 1010	Freshman Honors I	
HONR 1020	Freshman Honors II	
Total Hours		**36**

[1] if not being used to fulfill composition requirements

Concentration - Intelligence & Security Studies

Description

The Intelligence and Security Studies (ISS) emphasis is designed to prepare outstanding students at the University of Mississippi for entry-level positions in the U.S. Intelligence Community. Admission to the ISS emphasis is available to U.S. citizens after a rigorous selection process after completion of INSS 1250 Introduction to Intelligence Studies. Additionally, the completion of an internship is required. Staff in the Center for Intelligence and Security Studies will work with the intelligence community to place students in internships that complement their academic experience. Internships may be in intelligence community agencies, other governmental organizations, and the private sector. Students must complete each course in the emphasis with a grade of "B" or better and must maintain an overall GPA of 3.0.

Degree Requirements

Code	Title	Hours
INSS 1250	Introduction to Intelligence Studies	3
INSS 3511	Advanced Analytics I	3
INSS 3512	Advanced Analytics II	3
INSS 4900	Internship in Intelligence & Security St	3
INSS 4996A	Intelligence & Security Studies-Capstone	3
Select three hours of of electives from the following:		3
INSS 3010	Survey of U.S. National Security Policy	
INSS 3600	Overview of Cybersecurity and Policy	
INSS 4999A	Special Topics in Intel & Security	
INSS 4800	Nat'l Security Issues of 21st Century	
Select 12 hours of approved engineering electives with 9 hrs at the 3000+ level chosen from:		12
ENGR 3400	Engineering Geology	
BMED 2000	Introduction to Biomedical Engineering	
BMED 2220	Biomaterials	
BMED 3010	Bioinstrumentation	
BMED 3110	Biomechanics	
BMED 3130	Physiology for Biomedical Engineering	
BMED 3140	Biomedical Measurement	
BMED 3330	Biological Transport	
BMED 3500	Immunoengineering	
BMED 3700	Intro to Bioinformatics & Biostatistics	
BMED 5100	Drug and Gene Delivery	
BMED 5230	Molecular and Cellular Biophysics	
BMED 5240	Microscopy for Engineers	
CHME 3071	Chemical Process Principles I	
CHME 3072	Chemical Process Principles II	
CHME 4130	Chemical Process Safety	
CHME 5200	Biochemical Engineering	
CHME 5210	Drug and Gene Delivery	
CHME 5220	Immunoengineering	
CHME 5230	Molecular and Cellular Biophysics	
CHME 5240	Microscopy for Engineers	
CIVE 2000	Surveying	
CIVE 2002	Civil Engineering Graphics I	
CIVE 3025	Intermediate Dynamics	
CIVE 3070	Environmental Engineering I	
CIVE 4072	Water Resources Engineering	
CSCI 1011	Computer Science I	
CSCI 1012	Computer Science II	
CSCI 3043	Fundamentals of Data Science	
ELEC 2350	Principles of Digital Systems	
ELEC 3310	Signals and Systems	
GEOE 3050	Geomechanics	
GEOE 4050	Engineering Geophysics	
MECH 3240	Introduction to Mechanical Design	
MECH 3250	Intermediate Dynamics	
MECH 4010	Thermo-fluid Dynamics	
MECH 4060	Alternative Energy Systems	
Select 6 hours of Social Sciences		6
Anthropology		
Economics		
LIBA 2030	Interdisciplinary Social Sciences	
LIBA 3130	Advanced Interdisc Social Science	
Political Science		
Psychology		
Sociology		
HONR 1010	Freshman Honors I	
HONR 1020	Freshman Honors II	
Total Hours		**36**

[1] if not being used to fulfill composition requirements

Concentration - Global Security Studies

Description

The Global Security Studies (GSS) emphasis is designed to familiarize students with the skills and background necessary for entry-level

employment in the national security and defense sector. Students must complete each course in the emphasis with a grade of "C-" or better.

Degree Requirements

Code	Title	Hours
INSS 1350	Intro to Global and National Security	3
INSS 3010	Survey of U.S. National Security Policy	3
INSS 3511	Advanced Analytics I	3
Select nine hours of of electives from the following:		9
INSS 1250	Introduction to Intelligence Studies	
INSS 3600	Overview of Cybersecurity and Policy	
INSS 4999A	Special Topics in Intel & Security	
INSS 4800	Nat'l Security Issues of 21st Century	
INSS 4900	Internship in Intelligence & Security St	
POLS 3503	Intl. Politics of Nuclear Weapons	
Select 12 hours of approved engineering electives with 9 hrs at the 3000+ level chosen from:		12
ENGR 3400	Engineering Geology	
BMED 2000	Introduction to Biomedical Engineering	
BMED 2220	Biomaterials	
BMED 3010	Bioinstrumentation	
BMED 3110	Biomechanics	
BMED 3130	Physiology for Biomedical Engineering	
BMED 3140	Biomedical Measurement	
BMED 3330	Biological Transport	
BMED 3500	Immunoengineering	
BMED 3700	Intro to Bioinformatics & Biostatistics	
BMED 5100	Drug and Gene Delivery	
BMED 5230	Molecular and Cellular Biophysics	
BMED 5240	Microscopy for Engineers	
CHME 3071	Chemical Process Principles I	
CHME 3072	Chemical Process Principles II	
CHME 4130	Chemical Process Safety	
CHME 5200	Biochemical Engineering	
CHME 5210	Drug and Gene Delivery	
CHME 5220	Immunoengineering	
CHME 5230	Molecular and Cellular Biophysics	
CHME 5240	Microscopy for Engineers	
CIVE 2000	Surveying	
CIVE 2002	Civil Engineering Graphics I	
CIVE 3025	Intermediate Dynamics	
CIVE 3070	Environmental Engineering I	
CIVE 4072	Water Resources Engineering	
CSCI 1011	Computer Science I	
CSCI 1012	Computer Science II	
CSCI 3043	Fundamentals of Data Science	
ELEC 2350	Principles of Digital Systems	
ELEC 3310	Signals and Systems	
GEOE 3050	Geomechanics	
GEOE 4050	Engineering Geophysics	
MECH 3240	Introduction to Mechanical Design	
MECH 3250	Intermediate Dynamics	
MECH 4010	Thermo-fluid Dynamics	
MECH 4060	Alternative Energy Systems	
Select 6 hours of Social Sciences		6
Anthropology		
Economics		
LIBA 2030	Interdisciplinary Social Sciences	
LIBA 3130	Advanced Interdisc Social Science	
Political Science		
Psychology		
Sociology		
HONR 1010	Freshman Honors I	
HONR 1020	Freshman Honors II	
Total Hours		**36**

[1] if not being used to fulfill composition requirements

Concentration - Aerospace Engineering

Description

"The emphasis in aerospace engineering provides a cross-disciplinary foundation in topics critical to the modern aerospace industry. The curriculum provides core knowledge in typical aerospace topics such as fluid mechanics and structures while also providing a foundation in digital architectures and programming, materials, and electrical systems. The curriculum appropriately prepares the student for either entry into the aerospace industry or to graduate education in aerospace-related fields. Electives can be selected under approval of the student's academic adviser to further a knowledge base in relevant aerospace areas such as flight mechanics, controls, and digital systems, and communications."

Degree Requirements

Code	Title	Hours
PHYS 3080	Mathematical Physics	3
Select nine hours of of electives from the following:		9
CSCI 1011	Computer Science I	
CSCI 1012	Computer Science II	
CSCI 3025	Foundations of Computer Security	
CSCI 2056	Data Structures in Python	
INSS 1250	Introduction to Intelligence Studies	
ELEC 2350	Principles of Digital Systems	
ELEC 2360	Digital Systems Laboratory I	
PHYS 3210	Mechanics	
CIVE 3010	Introduction to Structural Mechanics	
Select six hours of electives of your choice.		6
CHME 3160	Chemical Engineering Fluid Mechanics	3
MECH 4010	Thermo-fluid Dynamics	3
MECH 4020	Elements of Propulsion	3
MECH 5290	Aerodynamics	3
Select 6 hours of Social Sciences		6
Anthropology		
Economics		
LIBA 2030	Interdisciplinary Social Sciences	
LIBA 3130	Advanced Interdisc Social Science	
Political Science		

	Psychology	
	Sociology	
	HONR 1010	Freshman Honors I
	HONR 1020	Freshman Honors II
Total Hours		**36**

[1] if not being used to fulfill composition requirements

Concentration - Entrepreneurship

Description

The Entrepreneurship emphasis is designed to prepare outstanding students at the University of Mississippi to pursue the process of starting and running their own business. The entrepreneurship major is designed to teach and promote: opportunity recognition, opportunity assessment, risk management & mitigation, conveying a compelling vision, tenacity & perseverance, creative problem solving, resource leveraging, guerrilla skills, value creation, maintain focus yet adapt, resilience, self-efficacy, and building networks.

Degree Requirements

Code	Title	Hours
ACCY 2010	Introduction to Accounting Principles I	3
ACCY 2020	Introduction to Accounting Principles II	3
Select four of the following: [1]		12
ENTR 3210	Entrepreneurial Pitching	
ENTR 3170	Social Influencing in Sport	
ENTR 3180	Design Thinking for Innovation	
ENTR 3190	Entrepreneurial Law	
ENTR 3200	Quickbooks	
ENTR 3140	Arts Entrepreneurship	
ENTR 3150	Franchising	
ENTR 3231	Digital Marketing	
ENTR 3232	Digital Marketing II	
ENTR 3240	e-Commerce Strategy for Entrepreneurs	
ENTR 3900	Business Venturing	
ENTR 4110	Project Management for PMI Certification	
ENTR 4120	Basics of Applied International Trade	
ENTR 4130	Blockchain and the Modern Economy	
ENTR 4810	Venture Ideas	
ENTR 4820	Business Strategy and Modeling	
ENTR 4830	Corporate Innovation	
ENTR 4840	Venture Finance	
ENTR 4140	Regulation in New Ventures	
ENTR 4150	Entrepreneurial Leadership	
ENTR 4160	Family Business Management	
GBUS 3500	Essentials of Marketing	
GBUS 3700	Entrepreneurship and Management	
ECON 2020	Principles of Microeconomics	3
ECON 2030	Principles of Macroeconomics	3
Select 12 hours of approved engineering electives with 9 hrs at the 3000+ level chosen from:		12
ENGR 3400	Engineering Geology	
BMED 2000	Introduction to Biomedical Engineering	
BMED 2220	Biomaterials	
BMED 3010	Bioinstrumentation	
BMED 3110	Biomechanics	
BMED 3130	Physiology for Biomedical Engineering	
BMED 3140	Biomedical Measurement	
BMED 3330	Biological Transport	
BMED 3500	Immunoengineering	
BMED 3700	Intro to Bioinformatics & Biostatistics	
BMED 5100	Drug and Gene Delivery	
BMED 5230	Molecular and Cellular Biophysics	
BMED 5240	Microscopy for Engineers	
CHME 3071	Chemical Process Principles I	
CHME 3072	Chemical Process Principles II	
CHME 4130	Chemical Process Safety	
CHME 5200	Biochemical Engineering	
CHME 5210	Drug and Gene Delivery	
CHME 5220	Immunoengineering	
CHME 5230	Molecular and Cellular Biophysics	
CHME 5240	Microscopy for Engineers	
CIVE 2000	Surveying	
CIVE 2002	Civil Engineering Graphics I	
CIVE 3025	Intermediate Dynamics	
CIVE 3070	Environmental Engineering I	
CIVE 4072	Water Resources Engineering	
CSCI 1011	Computer Science I	
CSCI 1012	Computer Science II	
CSCI 3043	Fundamentals of Data Science	
ELEC 2350	Principles of Digital Systems	
ELEC 3310	Signals and Systems	
GEOE 3050	Geomechanics	
GEOE 4050	Engineering Geophysics	
MECH 3240	Introduction to Mechanical Design	
MECH 3250	Intermediate Dynamics	
MECH 4010	Thermo-fluid Dynamics	
MECH 4060	Alternative Energy Systems	
Total Hours		**36**

[1] Any other ENT prefix course will count for the emphasis as well as approved BUSN 3999A Topics In Business Abroad & BUSN 4999A Special Topics In Business courses (study abroad and internships) at management department discretion.