

Donnelly College — Missouri S&T

General Engineering Transfer Guide

Effective as of Fall 2020

Complete Group 1 - Core Requirements and Group 2 - Major Requirements for major of choice.

Group 1 - Core Requirements: All Majors Take All Courses

Engineering students take all Group 1 - Core Requirements and Group 2 - Major Requirements for major of choice. Math prerequisites: While they are not part of Missouri S&T engineering degree requirements, algebra and trigonometry skills are critical to success in calculus. To prepare for entry into calculus, students should follow math placement testing and advising recommendations at their college.

<u>Donnelly College</u>			<u>Semester</u>	<u>Missouri S&T</u>			
MT 231	Calculus and Analytic Geometry I	5		MATH 1214	Calculus for Engineers I <small>Grade of C or better is required.</small>	4	
MT 232	Calculus and Analytic Geometry II	5		MATH 1215	Calculus for Engineers II <small>Grade of C or better is required.</small>	4	
MT 233	Calculus and Analytic Geometry III	5		MATH 2222	Calculus with Analytic Geometry III <small>Grade of C or better is required.</small>	4	
MT 235	Differential Equations	3		MATH 3304	Elementary Differential Equations	3	
PX 201	Engineering Physics I	5		PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>	4	
CH 101	College Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5	
EN 111	English Composition I	3		ENGLISH 1120	Exposition and Argumentation	3	
EC 202 or EC 201	Principles of Microeconomics or Principles of Macroeconomics	3		ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3	
Total Hours			34	Total Hours			30

Group 2 - Major Requirements: Take All Courses for Major of Choice

Engineering students take all Group 1 - Core Requirements (above) and Group 2 - Major Requirements for chosen major from list below. See course requirements on following pages.

Aerospace Engineering
Architectural Engineering
Ceramic Engineering
Chemical Engineering
Chemical Engineering/Biochemistry Emphasis
Civil Engineering
Computer Engineering
Electrical Engineering

Engineering Management
Environmental Engineering
Geological Engineering
Mechanical Engineering
Metallurgical Engineering
Mining Engineering
Nuclear Engineering
Petroleum Engineering

Engineering Major Requirements are detailed on the following pages.

Free Electives: Some programs allow Free Electives as indicated within each major. Free Electives should be selected in consultation with your advisor and may not include remedial/deficiency courses, algebra, trigonometry, pre-calculus, or extra credits in required courses.

Humanities/Social Science (HSS) Electives: HSS electives may include any history, economics, political science, sociology, psychology, philosophy, fine art, literature, or foreign language. Missouri S&T approved HSS courses are listed at ugs.mst.edu. Your campus may have additional acceptable options. Consult with your advisor or email transfer@mst.edu with questions.

Aerospace Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HS 121 or HS 122 or PS 111	Early American History or Late American History or American Government	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
EN 112 or EN 140	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
	Literature Elective	3		Literature Elective	3
	Ethics Elective	3		Ethics Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	12		Group 2 Major Requirements	12
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	46		Total Hours*	42

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.

Architectural Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HS 121 or HS 122	Early American History or Late American History <small>Donnelly College does not have a course equivalent to S&T HISTORY 1200.</small>	3	HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Modern Western Civilization* (or American History to 1877 or American History since 1877) <small>*HISTORY 1200 is preferred; 1300 or 1310 will also be accepted.</small>	3
EN 112 or EN 140 or HSS Elective	English Composition II or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3	ENGLISH 1160 or SPMS 1185 or HSS Elective	Writing and Research or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	6		Group 2 Major Requirements	6
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	40		Total Hours*	36

*S&T advisor permission is required to transfer more than 69 credits toward the S&T Architectural Engineering degree.

Ceramic Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HS 121 or HS 122 or PS 111	Early American History or Late American History or American Government	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
EN 112 or EN 140 or HSS Elective	English Composition II or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3	ENGLISH 1160 or SPMS 1185 or HSS Elective	Writing and Research or Public Speaking or Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	9		Group 2 Major Requirements	9
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	43		Total Hours*	39

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.

Chemical Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 112	English Composition II	3	ENGLISH 1160	Writing and Research	3
HS 121 or	Early American History or		HISTORY 1300 or	American History to 1877 or	
HS 122 or	Late American History or	3	HISTORY 1310 or	American History since 1877or	3
PS 111	American Government		POL SCI 1200	American Government	
IS 315	Object-Oriented Programming	3	CS 1500	Computational Problem Solving	3
EN 140	Public Speaking	3	SP&MS 1185	Principles of Speech	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	49		Total Hours*	45

*S&T advisor permission is required to transfer more than 69 credits toward the S&T Chemical Engineering degree.

Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 112	English Composition II	3	ENGLISH 1160	Writing and Research	3
HS 121 or	Early American History or		HISTORY 1300 or	American History to 1877 or	
HS 122 or	Late American History or	3	HISTORY 1310 or	American History since 1877or	3
PS 111	American Government		POL SCI 1200	American Government	
IS 315	Object-Oriented Programming	3	CS 1500	Computational Problem Solving	3
EN 140	Public Speaking	3	SP&MS 1185	Principles of Speech	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	49		Total Hours*	45

*S&T advisor permission is required to transfer more than 71 credits toward the S&T Chemical/Biochemical Engineering degree.

Civil Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 112 or	English Composition II or		ENGLISH 1160 or	Writing and Research or	
EN 140	Public Speaking	3	SPMS 1185	Principles of Speech	3
HS 121 or	Early American History or		HISTORY 1300 or	American History to 1877 or	
HS 122 or	Late American History or	3	HISTORY 1310 or	American History since 1877or	3
PS 111	American Government		POL SCI 1200	American Government	
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	9		Group 2 Major Requirements	9
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	43		Total Hours*	39

*S&T advisor permission is required to transfer more than 69 credits toward the S&T Civil Engineering degree.

Computer Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 140	Public Speaking	3	SPMS 1185	Public Speaking	3
EN 112	English Composition II	3	ENGLISH 1160	Writing and Research	3
HS 121 or	Early American History or		HISTORY 1300 or	American History to 1877 or	
HS 122 or	Late American History or	3	HISTORY 1310 or	American History since 1877or	3
PS 111	American Government		POL SCI 1200	American Government	
IS 315	Object-Oriented Programming	3	CS 1500	Computational Problem Solving	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	0		Maximum Free Electives	3
	Group 2 Major Requirements	15		Group 2 Major Requirements	18
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	49		Total Hours*	48

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer Engineering degree.

Electrical Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 140	Public Speaking	3	SPMS 1185	Public Speaking	3
EN 112	English Composition II	3	ENGLISH 1160	Writing and Research	3
HS 121 or	Early American History or		HISTORY 1300 or	American History to 1877 or	
HS 122 or	Late American History or	3	HISTORY 1310 or	American History since 1877or	3
PS 111	American Government		POL SCI 1200	American Government	
IS 315	Object-Oriented Programming	3	CS 1500	Computational Problem Solving	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Maximum Free Electives	3
	Group 2 Major Requirements	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	52		Total Hours*	48

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.

Engineering Management Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
PY 101	General Psychology	3	PSYCH 1101	General Psychology	3
HS 121 or	Early American History or		HISTORY 1300 or	American History to 1877 or	
HS 122 or	Late American History or	3	HISTORY 1310 or	American History since 1877or	3
PS 111	American Government		POL SCI 1200	American Government	
EN 112 or	English Composition II or	3	ENGLISH 1160 or	Writing and Research or	3
EN 140	Public Speaking		SPMS 1185	Principles of Speech	
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Maximum Free Electives	3
	Group 2 Major Requirements	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	49		Total Hours*	45

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Engineering Management degree.

Environmental Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 112 or EN 140	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HS 121 or HS 122	Early American History or Late American History	3	HISTORY 1300 or HISTORY 1310	American History to 1877 or American History since 1877	3
BL 101	Principles of Biology	5	BIO SCI 1113	General Biology	4
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	14		Group 2 Major Requirements	13
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	48		Total Hours*	43

*S&T advisor permission is required to transfer more than 69 credits toward the S&T Environmental Engineering degree.

Geological Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 112 or EN 140	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HS 121 or HS 122 or PS 111	Early American History or Late American History or American Government	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
BL 101	Principles of Biology	5	BIO SCI 1113	General Biology	4
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	17		Group 2 Major Requirements	16
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	51		Total Hours*	46

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Geological Engineering degree.

Mechanical Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HS 121 or HS 122 or PS 111	Early American History or Late American History or American Government	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
EN 112 or EN 140	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
	Literature Elective	3		Literature Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	12		Group 2 Major Requirements	12
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	46		Total Hours*	42

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.

Metallurgical Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 112 or EN 140	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HS 121 or HS 122 or PS 111	Early American History or Late American History or American Government	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	5		Maximum Free Electives	5
	Group 2 Major Requirements	17		Group 2 Major Requirements	17
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	51		Total Hours*	47

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Metallurgical Engineering degree.

Mining Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 112	English Composition II	3	ENGLISH 1160	Writing and Research	3
HS 121 or HS 122 or PS 111	Early American History or Late American History or American Government	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	12		Group 2 Major Requirements	12
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	46		Total Hours*	42

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mining Engineering degree.

Nuclear Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 112	English Composition II	3	ENGLISH 1160	Writing and Research	3
HS 121 or HS 122 or PS 111	Early American History or Late American History or American Government	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	6		Maximum Free Electives	6
	Group 2 Major Requirements	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	52		Total Hours*	48

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Nuclear Engineering degree.

Petroleum Engineering Group 2 Major Requirements

<u>Donnelly College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EN 112	English Composition II	3	ENGLISH 1160	Writing and Research	3
HS 121 or HS 122 or PS 111	Early American History or Late American History or American Government	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	12		Group 2 Major Requirements	12
	Group 1 Core Requirements	34		Group 1 Core Requirements	30
	Total Hours	46		Total Hours*	42

*S&T advisor permission is required to transfer more than 68 credits toward the S&T Petroleum Engineering degree.