

Pre-Engineering Minor Sample Curriculum

First Semester		Second Semester	
WSM 101	3	MAT 214	4
LST 101	1	PHY 212	4
ENG 103	3	CSC 104	3
MAT 124	5	EGR/PHY 101	3
PHY 201†	4	Fundamental Questions	3
Historical Perspectives #1	3		
<i>Total</i>	<i>19</i>	<i>Total</i>	<i>17</i>

Third Semester		Fourth Semester	
MAT 224	4	MAT 312* or Major Course	3
Foreign Language 101	4	Cultural Diversity #1	3/4
Artistic Context #1	3	Behavior and Social Institutions #1	3
Historical Perspectives #2	3	Cultural Diversity #2	3
Major or Minor Elective Course	3	Major or Minor Elective Course	3
Physical Education	1	Major or Minor Elective Course	3
<i>Total</i>	<i>18</i>	<i>Total</i>	<i>18/19</i>

Fifth Semester		Sixth Semester	
CHM 114/115	4	MAT 312* or Major Course	3
Artistic Context #2	3	Behavior and Social Institutions #3	3
Behavior and Social Institutions #2	3	Tier III‡	3
ULOD	3	Major or Minor Elective Course	3
Major or Minor Elective Course	3	Major or Minor Elective Course	3
Major or Minor Elective Course	3	Major or Minor Elective Course	3
<i>Total</i>	<i>19</i>	<i>Total</i>	<i>18</i>

†Students who plan to major in Physics must take PHY 201 their first semester and PHY 212 their second semester in order to complete the major within 3 years.

*MAT 312 is offered in the spring of odd years. All of MAT 124, MAT 214, MAT 224, and CSC 104 are prerequisites for MAT 312.

‡ Students planning to continue their engineering studies at Missouri S&T should take EGR/PHY 230 (Statics) as their Tier III course.

Pre-Engineering Minor with a Major in Mathematics

First Semester		Second Semester	
WSM 101	3	MAT 214	4
LST 101	1	CSC 104	3
ENG 103	3	EGR/PHY 101	3
MAT 124	5	Cultural Diversity #1	3/4
Foreign Language 101	4	Historical Perspectives #2	3
Historical Perspectives #1	3		
<i>Total</i>	<i>19</i>	<i>Total</i>	<i>16/17</i>

Third Semester		Fourth Semester	
MAT 224	4	MAT 312* or PE Activity	3 or 1
PHY 201	4	PHY 212	4
Artistic Context #1	3	Behavior and Social Institutions #2	3
MAT 215	3	MAT 331	3
Behavior and Social Institutions #1	3	MAT 313	3
<i>Total</i>	<i>17</i>	<i>Total</i>	<i>16 or 14</i>

Fifth Semester		Sixth Semester	
CHM 114/115	4	MAT 312* or PE Activity	3 or 1
Artistic Context #2	3	Behavior and Social Institutions #3	3
ULOD	3	Tier III‡	3
MAT 422	3	MAT 424	3
Math Elective	3	Cultural Diversity #2	3
		Fundamental Questions	3
<i>Total</i>	<i>16</i>	<i>Total</i>	<i>18 or 16</i>

Note that other courses may be required depending on the engineering major the student wishes to pursue.

*MAT 312 is offered in the spring of odd years. All of MAT 124, MAT 214, MAT 224, and CSC 104 are prerequisites for MAT 312.

‡ Students planning to continue their engineering studies at Missouri S&T should take EGR/PHY 230 (Statics) as their Tier III course.

Pre-Engineering Minor and a Physics Major

First Semester		Second Semester	
WSM 101	3	MAT 214	4
LST 101	1	ENG 103	3
MAT 124	5	PHY 212	4
PHY 201	4	EGR/PHY 101	3
Tier II	3	Tier II	3
Tier II	3	Physical Education	1
<i>Total</i>	<i>19</i>	<i>Total</i>	<i>18</i>

Third Semester		Fourth Semester	
MAT 224	4	MAT 312*	3
PHY 223	3	CHM 124/125	4
GER or FRE 101‡	4	GER or FRE 102‡	4
CSC 104	3	Tier II	3
CHM 114/115	4	PHY 324 or PHY 325	4
<i>Total</i>	<i>18</i>	<i>Total</i>	<i>18</i>

May, Summer, or Winter Term	
Tier II	3

Fifth Semester		Sixth Semester	
CHM 424/425 [†]	4	CHM 434/435 [†]	4
Tier II	3	Tier II	3
Tier II	3	Tier II	3
ULOD	3	Tier III**	4
PHY 415	4	PHY 416	4
<i>Total</i>	<i>17</i>	<i>Total</i>	<i>18</i>

Note that other courses may be required depending on the engineering major the student wishes to pursue.

‡ Students who complete CSC 111 may choose a language other than French or German to satisfy the Tier requirements.

*MAT 312 is only offered in the spring of odd years and must be taken prior to enrollment in PHY 415. All of MAT 124, MAT 214, MAT 224, and CSC 104 are prerequisites for MAT 312.

[†]CHM 424,425 replaces PHY 314 (Thermodynamics) and CHM 434, 435 replaces PHY 315 (Modern Physics). If either PHY 314 or PHY 315 is offered, it should be taken instead. If the student intends to complete a course in Thermodynamics at the engineering institution, the course may transfer back to Westminster and count towards the Physics major. Students interested in this option should discuss it with the Dual Degree Engineering Program coordinator and chair of the Department of Mathematics and Physics.

** Students planning to continue their engineering studies at Missouri S&T should take EGR/PHY 230 (Statics) as their Tier III course.

Pre-Engineering Minor with Biology Major

First Semester		Second Semester	
WSM 101	3	MAT 214	4
LST 101	1	ENG 103	3
MAT 124	5	BIO 114/115 [†]	4
BIO 124/125 [†]	4	EGR/PHY 101	3
Foreign Language 101	4	Tier II Course	3
<i>Total</i>	<i>17</i>	<i>Total</i>	<i>17</i>

May, Summer, or Winter Terms	
Tier II	3
Tier II	3
Tier II	3

Third Semester		Fourth Semester	
MAT 224	4	MAT 312* or Tier II Course	3
PHY 201	4	PHY 212	4
CHM 114/115	4	CHM 124/125	4
BIO Course	4	BIO Course	4
CSC 104	3	Tier II Course	3
		Physical Education	1
<i>Total</i>	<i>19</i>	<i>Total</i>	<i>19</i>

May, Summer, or Winter Terms	
Tier II	3
Tier II	3

Fifth Semester		Sixth Semester	
BIO Course	4	MAT 312* or Human Behavior #1	3
BIO Course	4	BIO Course	4
Tier II Course	3	BIO Course	4
Tier II Course	3	BIO Course	4
ULOD	3	Tier III**	3
<i>Total</i>	<i>17</i>	<i>Total</i>	<i>18</i>

Note that other courses may be required depending on the engineering major the student wishes to pursue. Also note that “field” courses required for the Biology major typically are offered in the fall semester.

†BIO 124/125 and 114/115 are prerequisites for all other Biology courses.

*MAT 312 is offered in the spring of odd years. All of MAT 124, MAT 214, MAT 224, and CSC 104 are prerequisites for MAT 312.

** Students planning to continue their engineering studies at Missouri S&T should take EGR/PHY 230 (Statics) as their Tier III course.

Pre-Engineering Minor with Chemistry Major Sample Curriculum (Starting Fall of an Even Year)

First Semester		Second Semester	
WSM 101	3	MAT 214	4
LST 101	1	CHM 124/125	4
MAT 124	5	PHY 212	4
PHY 201	4	ENG 103	3
CHM 114/115	4	EGR/PHY 101	3
<i>Total</i>	<i>17</i>	<i>Total</i>	<i>18</i>

May, Summer, or Winter Term	
Tier II	3

Third Semester		Fourth Semester	
MAT 224	4	CHM 344/345	4
CHM 334/335	4	CHM 324/325	4
CHM 314/315	4	Tier II	3
Foreign Language 101	4	Tier II	3
CSC 104	3	Tier II	3
		Physical Education	1
<i>Total</i>	<i>19</i>	<i>Total</i>	<i>18</i>

May, Summer, or Winter Term	
Tier II	3

Fifth Semester		Sixth Semester	
CHM 304	3	MAT 312	3
CHM 424/425	4	CHM 434/435	4
Tier II	3	CHM Elective	3
Tier II	3	Tier II	3
Tier II	3	Tier III*	3
Tier II	3	ULOD	3
<i>Total</i>	<i>19</i>	<i>Total</i>	<i>19</i>

Note that other courses may be required depending on the engineering major the student wishes to pursue.

* Students planning to continue their engineering studies at Missouri S&T should take EGR/PHY 230 (Statics) as their Tier III course.

Pre-Engineering Minor with Chemistry Major Sample Curriculum (Starting in Fall of an Odd Year)

First Semester		Second Semester	
WSM 101	3	MAT 214	4
LST 101	1	CHM 124/125	4
MAT 124	5	PHY 212	4
PHY 201	4	ENG 103	3
CHM 114/115	4	EGR/PHY 101	3
<i>Total</i>	<i>17</i>	<i>Total</i>	<i>18</i>

May, Summer, or Winter Term	
Tier II	3
Tier II	3

Third Semester		Fourth Semester	
MAT 224	4	MAT 312	3
CHM 304	3	CHM 434/435	4
CHM 424/425	4	CHM Elective	3
Foreign Language 101	4	Tier II	3
CSC 104	3	Tier II	3
		Tier III*	3
<i>Total</i>	<i>18</i>	<i>Total</i>	<i>19</i>

May, Summer, or Winter Term	
Tier II	3

Fifth Semester		Sixth Semester	
CHM 334/335	4	CHM 344/345	4
CHM 314/315	4	CHM 324/325	4
Tier II	3	Tier II	3
Tier II	3	Tier II	3
Tier II	3	ULOD	3
Physical Education	1		
<i>Total</i>	<i>18</i>	<i>Total</i>	<i>19</i>

Note that other courses may be required depending on the engineering major the student wishes to pursue.

* Students planning to continue their engineering studies at Missouri S&T should take EGR/PHY 230 (Statics) as their Tier III course.

Advising Notes for the Dual Degree Engineering Program

Students who plan to participate in the Dual Degree Engineering Program are expected to complete the Pre-Engineering minor, the requirements for a major, and their Tier requirements prior to transferring to the engineering institution.

- Students must earn grades of C or better in those courses they wish to transfer. Courses taken CR-D-F will not transfer to Washington University in St. Louis and may not transfer to other institutions.
- Students planning to continue their studies at Missouri S&T must successfully complete the following as part of their Tier requirements:
 - HIS 103, HIS 104, HIS 106, or POL 211
 - ECN 211 or ECN 212
- Students who plan to complete their engineering studies at Missouri S&T must also complete EGR/PHY 230 (Engineering Mechanics – Statics) prior to transferring. All other Pre-Engineering students are strongly encouraged to complete the course while at Westminster.
- It is strongly recommended that students who plan to complete their engineering studies at Washington University in St. Louis complete MAT 313 (Mathematical Probability and Statistics) while at Westminster.

It is strongly recommended that students interested in the Dual Degree Engineering program work closely with the program coordinator to ensure a smooth transition to the engineering institution.