

XAVIER/TULANE 3+2 ENGINEERING PROGRAM

Overview

This program is designed to give a solid academic background in the sciences and mathematics that are essential to persons who are interested in becoming engineers. At Xavier University in New Orleans, students are provided with the counseling, academic, and other support services that will maximize their opportunity for completion of the first three years of the program. Students take three years of basic science, mathematics, engineering, and liberal arts courses. During this time, students also can take classes at Tulane through the consortium program (<https://registrar.tulane.edu/consortium>). When the three-year program at Xavier is completed successfully, students transfer to Tulane to complete training in biomedical engineering (BME), chemical and biomolecular engineering (CBE), or engineering physics (ENGP). At Tulane, students will work with an advisor in their chosen major, a Newcomb Tulane College advisor, and other support services to ensure their success in the program. It is expected that students will, with normal course loads, be able to complete their undergraduate training in two years at Tulane.

Requirements

The Requirements for the Xavier/Tulane 3+2 Engineering Program vary based depending on which engineering program they select:

- Students in the Xavier/Tulane 3+2 Biomedical Engineering program will need to complete the degree requirements for the BSE in Biomedical Engineering (<https://catalog.tulane.edu/science-engineering/biomedical-engineering/biomedical-engineering-major/#requirementstext>)
- Students in the Xavier/Tulane 3+2 Chemical Engineering program will need to complete the degree requirements for the BSE in Chemical Engineering (<https://catalog.tulane.edu/science-engineering/chemical-biomolecular-engineering/chemical-engineering-major/#requirementstext>)
- Students in the Xavier/Tulane 3+2 Engineering Physics program will need to complete the degree requirements for the BSE in Engineering Physics (<https://catalog.tulane.edu/science-engineering/physics-engineering/engineering-physics-major/#requirementstext>)

Sample Plan of Study (Biomedical Engineering Example)

Year 1

Semester 1

*Courses marked with an asterisk are anticipated to be completed at Xavier University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
Chemistry I and Lab*		
General Physics I and Lab*		
Calculus I*		

Semester 2

*Courses marked with an asterisk are anticipated to be completed at Xavier University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
Chemistry II and Lab*		
General Physics II and Lab*		
Calculus II*		

Year 2

Semester 1

*Courses marked with an asterisk are anticipated to be completed at Xavier University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
General Bio and Lab*		
Calculus III*		
ENGP 2010 & ENGP 2011	Electric Circuits and Electric Circuits Lab *	4

*ENGP & BMEN classes 2xxx and below maybe transferred in, excepting BMEN 2310 and BMEN 2730

Semester 2

*Courses marked with an asterisk are anticipated to be completed at Xavier University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
Applied Mathematics (Diff EQ)*		
BMEN 2020 & BMEN 2021	Computing Concepts & Applic and Computing Concepts & App. Lab	4
ENGP 1410	Statics *	3

*ENGP & BMEN classes 2xxx and below maybe transferred in, excepting BMEN 2310 and BMEN 2730

Year 3

Semester 1

The following courses are anticipated to be completed at Tulane University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
ENGP 2430	Mechanics of Materials *	3
BMEN 2310	Product & Experimental Design	3

*ENGP & BMEN classes 2xxx and below maybe transferred in, excepting BMEN 2310 and BMEN 2730

Semester 2

The following courses are anticipated to be completed at Tulane University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
BMEN 2600	Intro Organic & Biochem **	3
BMEN 2730	Biomedical Electronics	4
ENGP 3120	Materials Science and Engineering	3

**Can be replaced with 1 full semester of Organic I if following CELL biology; Or can be replaced with full semesters of Organic I & Bio-Chem, with one of those counting as a prof elective

Year 4

Semester 1

The following courses are anticipated to be completed at Tulane University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
BMEN 3030 & BMEN 3035	Anatomy & Physio for Engr and Anatomy & Physiology for Engineers Cadaver Lab	4
BMEN 3440	Biofluid Mechanics	3
BMEN 4900	Art of Professional Eng	1
BMEN 3xxx "Domain" class		3

semester 2

The following courses are anticipated to be completed at Tulane University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
BMEN 3070 & BMEN 3075	Quantitative Physiology and Quant. Physiology Lab	4
BMEN 3820	Math Analysis Bio Systms	3
BMEN 4902	SR Research Prof Experience I	3
BMEN 3xxx "Domain" class		3

Year 5

semester 1

The following courses are anticipated to be completed at Tulane University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
BMEN 6710	Departmental Seminar	1
BMEN 4912	SR Research Prof Experience II	3
BMEN 4030 & BMEN 4031	BMEN Team Dsgn Project I and BMEN Team Design Project I Lab	3

semester 2

The following courses are anticipated to be completed at Tulane University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
BMEN 4040	BMEN Team Dsgn Proj II	3
BMEN 6720	Departmental Seminar II	1

General Education

Most of the following courses are typically fulfilled during 1st, 2nd, and 3rd years at Xavier. Any missing requirements can be completed during 4th and 5th years at Tulane.

Course ID	Title	Credits
Writing		
Cultural Knowledge I		
Cultural Knowledge II		
Cultural Knowledge III		
Cultural Knowledge IV		
Cultural Knowledge V		
Cultural Knowledge VI		
TIDES & 1st Tier Service Learning if required		
Professional Elective***		3
Professional Elective***		3
Professional Elective***		3
Professional Elective***		3

*** At least one Professional ELECT must be a BMEN 6xxx follow-up to 3xxx.

See also biomedical engineering requirements (<https://catalog.tulane.edu/science-engineering/biomedical-engineering/biomedical-engineering-major/#requirements>) and Xavier 3 + 2 program page (<https://sse.tulane.edu/undergraduate/xavier-3-2>).

Recommended Plan of Study: (Chemical Engineering and Engineering Physics Examples)

Year 1

Semester 1

The following courses are anticipated to be completed at Xavier University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
Chemistry I and Lab		
General Physics I and Lab		
Calculus I		

Semester 2

The following courses are anticipated to be completed at Xavier University. See General Education (<https://catalog.tulane.edu/science-engineering/combined-degrees/xavier-tulane-3-2-engineering/#general-education>) for additional requirements.

Course ID	Title	Credits
Chemistry II and Lab		
General Physics II and Lab		
Calculus II		

Years 2, 3, 4, and 5

Following the completion of the first year, requirements change based on engineering pathway. See below options for different pathways. General education requirements listed below need to be completed within these pathways as well.

chemical and biomolecular engineering

See chemical engineering requirements (<https://catalog.tulane.edu/science-engineering/chemical-biomolecular-engineering/chemical-engineering-major/#requirementstext>) and Xavier 3 + 2 program page (<https://sse.tulane.edu/undergraduate/xavier-3-2>).

engineering physics

See engineering physics requirements (<https://catalog.tulane.edu/science-engineering/physics-engineering/engineering-physics-major/#requirementstext>) and Xavier 3 + 2 program page (<https://sse.tulane.edu/undergraduate/xavier-3-2>).

General Education Requirements

Most of the following courses are typically fulfilled during 1st, 2nd, and 3rd years at Xavier. Any missing requirements can be completed during 4th and 5th years at Tulane.

Course ID	Title	Credits
Writing		
Cultural Knowledge I		
Cultural Knowledge II		
Cultural Knowledge III		
Cultural Knowledge IV		
Cultural Knowledge V		
Cultural Knowledge VI		
TIDES & 1st Tier Service Learning if required		
Professional Elective***		3
Professional Elective***		3
Professional Elective***		3
Professional Elective***		3

Program String and Field of Study: SEBSE_UG, [Selected engineering major Field of Study]

Student Attribute: ZZ XV

Contact

To learn more about the Xavier/Tulane 3+2 Engineering Program, contact the School of Science and Engineering (<https://sse.tulane.edu/about/contact>).