

## Technical\*, Chemical Engineering<sup>+</sup> and Chemistry Electives<sup>^</sup>

The faculty-approved listing of technical, chemical engineering and chemistry electives are shown below. A single course cannot apply to two separate degree requirements. For example, a CHE elective, if applied to a Technical Elective slot, cannot also count as a ChE elective. A separate course would be needed for the CHE elective slot. **Consult with your Academic Advisor for additional information.**

### Technical Electives

**(6 hours area allowed in the Practice Concentration, NO Technical Electives are allowed in the Biomolecular or Research & Development Concentrations)**

<u>ABE 3813</u>	Bio Prop Of Mat	*
<u>ABE 3813</u>	Laboratory	*
<u>ABE 3813</u>	Laboratory	*
<u>ABE 4523</u>	Biomedical Materials	*

<u>BIO 3304</u>	General Microbiology	*
<u>BIO 3304</u>	Laboratory	*
<u>BIO 3524</u>	Biol Of Vertebrates	*
<u>BIO 3524</u>	Laboratory	*
<u>BIO 4100</u>	Med Tech Clinicals	*
<u>BIO 4113</u>	Evolution	*
<u>BIO 4133</u>	Human Genetics	*
<u>BIO 4203</u>	Tax Of Spermatophyte	*
<u>BIO 4203</u>	Laboratory	*
<u>BIO 4214</u>	Gen Plant Physiology	*
<u>BIO 4214</u>	Laboratory	*
<u>BIO 4303</u>	Bioinstrumentation	*
<u>BIO 4413</u>	Immunology	*
<u>BIO 4414</u>	Micro Of Foods	*
<u>BIO 4414</u>	Laboratory	*
<u>BIO 4463</u>	Bacterial Physiology	*
<u>BIO 4504</u>	Compar Verte Embryo	*
<u>BIO 4504</u>	Laboratory	*
<u>BIO 4514</u>	Animal Physiology	*
<u>BIO 4514</u>	Laboratory	*

<u>EM 2433</u>	Engineering Mech II	*
<u>EM 3213</u>	Mech Of Materials	*
<u>EM 4123</u>	Intro Finite Element	*
<u>EM 4133</u>	Composite Materials	*
<u>EM 4143</u>	Eng Design Optimization	*

<u>FNH 4193</u>	Soc-Cult Aspect Food	*
<u>FNH 4241</u>	Applied Food Chemistry	*
<u>FNH 4243</u>	Food Comp & Reaction	*
<u>FNH 4414</u>	Microbiology of Foods	*

<u>FNH 4243</u>	Food Comp & Reaction	*
<u>GE 2713</u>	Intro to Engineering Public Policy (applies to the Global Engineering minor)	*
<u>GE 3011</u>	Engr Entrepreneur Sem (applies to Global Engineering minor)—may be taken the separate semesters to constitute ONE Technical Elective course requirement	*
<u>GE 3813</u>	Challenges Global Engineering (applies to Global Engineering minor)	*

<u>GG 3613</u>	Water Resources	*
<u>GG 4114</u>	Mineralogy	*
<u>GG 4114</u>	Laboratory	*
<u>GG 4114</u>	Laboratory	*
<u>GG 4233</u>	Applied Geophysics	*
<u>GG 4304</u>	Prin Sed Dep I	*
<u>GG 4304</u>	Laboratory	*
<u>GG 4304</u>	Laboratory	*
<u>GG 4403</u>	Gulf Coast Strat	*
<u>GG 4433</u>	Subsurface Methods	*
<u>GG 4433</u>	Laboratory	*
<u>GG 4433</u>	Laboratory	*
<u>GG 4503</u>	Geomorphology	*
<u>GG 4613</u>	Phys Hydrogeology	*
<u>GG 3133</u>	Intro Environ Geol	*
<u>GG 4063</u>	Dev of Fossil Fuel Res	*
<u>GG 4123</u>	Petrology	*
<u>GG 4123</u>	Laboratory	*
<u>GG 4153</u>	Engineering Geology	*
<u>GG 4153</u>	Laboratory	*
<u>GG 4413</u>	Structural Geology	*
<u>GG 4413</u>	Laboratory	*
<u>GG 4443</u>	Prin Sed Dep II	*
<u>GG 4523</u>	Coastal Environments	*

<u>GG 4623</u>	Chem Hydrogeology	*
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<u>GNS 3103</u>	Genetics I	*
<u>GNS 3103</u>	Laboratory	*
<u>GNS 4133</u>	Human Genetics	*

<u>IE 4333</u>	Prod Control Sys I	*
<u>IE 4513</u>	Engineering Admin	*
<u>IE 4573</u>	Process Imprvmt Eng	*
<u>IE 4653</u>	Ind Qual Control I	*
<u>IE 4753</u>	Systems Engr & Analysis	*
<u>IE 4533</u>	Project Mgt	*
<u>IE 4543</u>	Logistics Engineering	*
<u>IE 4613</u>	Eng Statistics I	*
<u>IE 4623</u>	Eng Statistics II	*
<u>IE 4733</u>	Linear Programming I	*
<u>IE 4743</u>	Eng Design Optimization	*
<u>IE 4773</u>	Sys Simulation I	*
<u>IE 4915</u>	Design Of Ind Sys	*
<u>IE 4915</u>	Laboratory	*

<u>MA 3053</u>	Found Of Math I	*
<u>MA 3113</u>	Intro Linear Algebra	*
<u>MA 3123</u>	Intro to Stat. Inf	*
<u>MA 3163</u>	Intro To Mod Algebra	*
<u>MA 3353</u>	Diff Equations II	*
<u>MA 4133</u>	Discrete Mathematics	*
<u>MA 4143</u>	Graph Theory	*
<u>MA 4153</u>	Mat & Lin Algebra	*
<u>MA 3053</u>	Found Of Math I	*
<u>MA 4173</u>	Number Theory	*
<u>MA 4243</u>	Data Analysis I	*
<u>MA 4313</u>	Numerical Anal I	*
<u>MA 4373</u>	Int Part Diff Equa	*
<u>MA 4523</u>	Intro To Probability	*
<u>MA 4543</u>	Intro Math Stat I	*
<u>MA 4633</u>	Adv Calculus I	*
<u>MA 4753</u>	Ap Complex Variables	*
<u>MA 4933</u>	Math Analysis I	*

<u>SBP 3123</u>	Biomass to Bioprod	*
<u>SBP 3143</u>	Biomass Char and Prod	*
<u>SBP 4023</u>	Lignocell Biomass Chem	*
<u>SBP 4213</u>	Deterioration & Preserv Biomat	*
<u>SBP 4213</u>	Laboratory	*
<u>SBP 4253</u>	Quant Method Sust Bioprod	*
<u>SBP 4313</u>	Bioproducts Environment	*

<u>SBP 3123</u>	Biomass to Bioprod	*
<u>SBP 3143</u>	Biomass Char and Prod	*
<u>SBP 4023</u>	Lignocell Biomass Chem	*
<u>SBP 4213</u>	Deterioration & Preserv Biomat	*

<u>PTE 3903</u>	Reservoir Fluid Properties	*
<u>PTE 3953</u>	Reservoir Rock Properties	*
<u>PTE 3963</u>	Drilling	*
	Any higher level PTE course for which CHEs have the necessary prerequisites	*

## Chemical Engineering Electives

- **3 hours of CHE Elective are required each of the three concentrations.**
- **A CHE Elective may also be substituted for CH 4413 Thermodynamics & Kinetics and for the "Chemistry Elective"**
- **CHE Electives may also be used to meet Technical Elective requirements (but cannot apply a single course to multiple degree requirements)**

<u>CHEXXXX</u>	All 3000 and 4000 level Chemical Engineering three semester credit hour electives meet the Chemical Engineering elective requirement	+
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## Chemistry/Biochemistry Electives

- **One chemistry/biochemistry elective is required in the Practice Concentration (which can be also met by a CHE elective)**

<u>BCH 4013</u>	Principles of Biochemistry	^
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<u>CH 3213</u>	Inorganic Chemistry	^
<u>CH 4213</u>	Adv. Inorganic Chemistry	^
<u>CH 4303</u>	Environmental Chemistry	^
<u>CH 4413</u>	Thermodynamics & Kinetics	^
<u>CH 4423</u>	Quantum Mechanics	^