

# Bachelor of Science in Mechanical Engineering

## Department of Civil & Mechanical Engineering



Fall 2016 – total 120 credit hours

All engineering & technical elective courses must have a combined minimum GPA of 2.0.

Course sequencing follows the academic year and assumes beginning the program in the fall semester.

Please consult the bulletin and <http://www.ipfw.edu/cme> for more information.

P = Pre-requisite, C = Co-requisite, DC = Design Content

1 <sup>st</sup> semester 15 credits	<b>MA 165* (4)</b> P: MA 154 or 159 with C- or better or placement  Analytical Geo. & Calculus I	<b>CHM 115* (4)</b> P: CHM 111 or 1 yr. H.S. C: MA 154  Chemistry	<b>ENGR 127 (4)</b> C: MA 154  Engineering Fundamental I	<b>ENG W131<sup>1*</sup> (3)</b> P: ENG W129 with C or better or placement  Elementary Composition I		
2 <sup>nd</sup> semester 18 credits	<b>MA 166* (4)</b> P: MA 165 with C- or better  Analytical Geo. & Calculus II	<b>PHYS 152* (5)</b> C: MA 166  Mechanics	<b>ENGR 128 (4)</b> P: ENGR 127 C: MA 165, ENG W131 or COM 114  Engineering Fundamental II	<b>ME 160 (2)</b> P: MA 165 C: ENGR 128  Solid Modeling	<b>COM 114* (3)</b>  Fundamentals of Speech	
3 <sup>rd</sup> semester 17 credits	<b>MA 261 (4)</b> P: MA 166 with C- or better  Multivariate Calculus	<b>MA 351 (3)</b> P: MA 166 with C- or better  Elementary Linear Algebra	<b>PHYS 251 (5)</b> P: PHYS 152 with C or better C: MA 261  Heat, Electricity, & Optics	<b>ME 250 (3)</b> P: PHYS 152 C: MA 261  Statics	<b>CS 227 (2) or ENGR 221 (2)</b> P: ENGR 128  Intro to C Programming	
4 <sup>th</sup> semester 15 credits	<b>MA 363 (3)</b> P: MA 261 with C- or better C: MA 351  Differential Equations	<b>ME 251 (3)</b> P: ME 250 C: MA 363  Dynamics	<b>ME 200 (3) DC</b> P: CHM 115 C: MA 261  Thermodynamics I	<b>ME 252 (3) DC</b> P: ME 250  Strength of Materials	<b>ECE 201 (3)</b> C: MA 261  Linear Circuit Analysis I	
5 <sup>th</sup> semester 13 credits	<b>ME 318 (3) DC</b> P: ME 200, ME 251, MA 363  Fluid Mechanics	<b>ME 361 (3) DC</b> P: ME 160, ME 251, MA 363  Kinematics & Dynamics Mach	<b>ME 303 (2)</b> P: CHM 115, PHYS 251 C: ME 252  Materials Science and Engr	<b>ME 331 (3) DC</b> P: ME 251, MA 363  System Dynamics	<b>ME 293 (2)</b> P: COM 114, ENG W131, ECE 201  Measurement & Instrument	
6 <sup>th</sup> semester 14 credits	<b>ME 301 (3) DC</b> P: ME 200  Thermodynamics II	<b>ME 304 (1)</b> P: ME 293, ME 303  Mechanics & Materials Lab	<b>ME 319 (1) DC</b> P: ME 293, ME 318  Fluid Mechanics Lab	<b>ME 321 (3) DC</b> C: ME 318  Heat Transfer	<b>ME 369 (3) DC</b> P: ME 361, ME 252, ME 303 C: ME 304  Design of Machine Elements	<b>ME 333 (3) DC</b> P: ME 331  Automatic Control Systems
7 <sup>th</sup> semester 13 credits	<b>ME 487* (3) DC or ENGR 410* (3) DC</b> P: ME 321, ME 369 C: ME 322  Senior Design I	<b>ME 322 (1)</b> P: ME 293, ME 321 C: ME 319  Heat Transfer Lab	<b>Technical Elective (3)</b>  Group 1	<b>Technical Elective (3)</b>  Group 1	<b>General Education Elective* (3)</b>  Category B.5	
8 <sup>th</sup> semester 15 credits	<b>ME 488 (3) DC or ENGR 411 (3) DC</b> P: ME 487 or ENGR 410  Senior Design II	<b>Technical Elective (3)</b>  Group 1	<b>Technical Elective (3)</b>  Group 1 or 2	<b>General Education Elective* (3)</b>  Category B.6	<b>General Education Elective* (3)</b>  Category B.7	

For information about the combined BSME/MSE degree contact Dr. Hosni Abu-Mulaweh (mulaweh@ipfw.edu).

For information about the Advanced Manufacturing Engineering certificate contact Dr. Don Mueller (don.mueller@ipfw.edu).

\* All courses used to fulfill General Education Requirements require a grade of C- or better.