

**DUAL DEGREE PROGRAM Physics/Engineering**

**UW-Milwaukee College of Engineering and Applied Science  
and  
UW-Whitewater**

**Mechanical Engineering**

**Course Equivalency Table**

<b><u>UW-Milwaukee Courses</u></b>				<b><u>Credits</u></b>	<b><u>UW-Whitewater Equivalent*</u></b>			<b><u>Credits</u></b>
Math	231	Calculus & Analytic Geometry	4	Math	253	Calculus & Analytic Geometry I	5	
Math	232	Calculus & Analytic Geometry	4	Math	254	Calculus & Analytic Geometry II	5	
Math	233	Calculus & Analytic Geometry	4	Math	255	Calculus & Analytic Geometry III	5	
ElecEng	234	Analytical Methods in Engineering	4	Math	355	Matrices and Linear Algebra	3	
				Math	361	Differential Equations	3	
Chem	102	General Chemistry (Group C Tech Elective)	5	Chem	102	Introductory Chemistry	5	
Chem	104	General Chemistry (Group C Tech Elective)	5	Chem	104	Introductory Chemistry	5	
Physics	209/214	Physics for Engineers I/Lab	4	Physics	180	Physics for Scientists/Engineers I	5	
Physics	210/215	Physics for Engineers II/Lab	4	Physics	181	Physics for Scientists/Engineers II	5	
Civil Eng	201	Statics	3	Physics	305	Engineering Mechanics: Statics	3	
Civil Eng	202	Dynamics	3	Physics	310	Engineering Mechanics: Dynamics	3	
CompSci	151/201	Intro Scientific/Computer Programming	3	CompSci	172, 174 or 347	Programming course	3	
Elec Eng	301	Electrical Science I	4	Physics	330/331	Analog and Digital Electronics	4	
Mech Eng	301	Basic Engineering Thermodynamics	3	Physics	364	Thermodynamics and Kinetic Theory	3	

<b>General Education</b>							
Art (3 credits required at UWM)							
Art	105	Art Survey	3	GenEd	110	World of the Arts	3
Music	XXX	(Meets UWM Cultural Diversity Requirement)	3	Music	144	Cultural Music of the Americas	3
Humanities (6 credits required at UWM)							
Commun	103	P:ublic Speaking	3	Comm	110	Fundamentals of Speech	3
L&S	XXX			GenEd	390	World of Ideas	3
Social Science (6 credits required at UWM)							
Econ	104	Macroeconomics	3	Econ	211	Economic Prin/Pblms/Policies	3
Hist	XXX		3	History	120	The US Experience in World Context	3
Psych	XXX		3	GenEd	130	Individual and Society	3
L&S	XXX		3	GenEd	140	Global Perspectives	
English							
English	101	Intro to College Writing	3	English	101	Freshman English	3
English	102	College Writing and Research	3	English	102	Freshman English	3
English	206	Technical Writing (Grp D Tech Elective)	3	English	372	Technical and Seicneific Writing	3

\*Some courses may not be direct equivalents but will be allowed as substitutions for the Materials Engineering Major.

**UW-Whitewater/UW-Milwaukee  
Physics/Engineering Dual Degree Program**

**Sample 2-year Study Plan at UWM**

**Mechanical Engineer**

<b>Year Four (senior year)</b>							
<b>Fall Semester</b>			<b>Credits</b>	<b>Spring Semester</b>			<b>Credits</b>
EAS	200	Professional Seminar	1	Ind Eng	467	Intro Statistics for Phy Sci/Eng	3
Ind Eng	112	Engineering Drawing and CAD/Drawing	3	MechEng	370	Computer aided Eng Lab	2
Civ Eng	303	Strength of Materials I	4	MechEng	320	Introduction to Fluid Mechanics	3
Matl Eng	201	Engineering Materials	4	MechEng	360	Mechanical Design I	3
MechEng	301	Basic Engineering Thermodynamics	3	MechEng	321	Basic Heat Transfer	4
			15				15
<b>Fifth Year</b>							
<b>Fall Semester</b>				<b>Spring Semester</b>			
Matl Eng	330	Materials and Processes in Manufacturing	3	MechEng	438	Mech Engineering Experimentation	3
MechEng	323	Fluid Mechanics Lab	1	MechEng	479	Control and Design of Mechatronics	3
MechEng	366	Design of Machine Elements	4	MechEng	496	Senior Design Project	3
MechEng	474	Introduction to Control Systems	4	Approved Technical Electives			6
Approved Technical Electives			6				15
			18				