

## 2 + 2 Joint Articulation Transfer Agreement

### Bachelor of Science in Physics (Engineering Emphasis)

#### Colorado State University – Pueblo And Community College Of Denver

<b>B.S. Requirements at CSU-Pueblo</b>			<b>A.S. Requirements at CCD</b>		
<b>Lower Division General Education Requirements</b>			<b>Equivalent Courses at CCD</b>		
Course #	Course Title	Credits	Course #	Course Title	Credits
ENG 101	Composition I	3	ENG 121	English Composition I	3
ENG 102	Composition II	3	ENG 122	English Composition II	3
			*COM 115	*Public Speaking *See Open Elective Section	(3)
Humanities	Select from statewide Gen Ed Core	9	Humanities	Select from statewide Gen Ed Core	9
Social Science	Select from statewide Gen Ed Core	6	Social Science	Select from statewide Gen Ed Core	6
History	Select from Statewide Gen Ed Core	3	History	Select from Statewide Gen Ed Core	3
MATH 126	Calculus & Analytic Geometry I	5	MAT 201	Calculus I	5
Physical and Life Sciences			Physical and Life Sciences		
CHEM 121/L and CHEM 122/L	General Chemistry I and General Chemistry II	5	CHE 111 and CHE 112	General College Chemistry I and General College Chemistry II	5
		5			5
<b>Subtotal</b>		<b>39</b>	<b>Subtotal</b>		<b>39</b>
<b>Required Physics Courses (Engineering Emphasis)</b>			<b>Equivalent Courses at CCD</b>		
PHYS 221/L	General Physics I/Lab	5	PHY 211	Physics: Calculus-based I	5
PHYS 222/L	General Physics II/Lab	5	PHY 212	Physics: Calculus-based II	5
PHYS 301	Theoretical Mechanics	4			
PHYS 321	Thermodynamics	3			
PHYS 322	Advanced Laboratory – Heat	1			
PHYS 323/L	General Physics III/Lab	5			
PHYS 341	Optics	3			
PHYS 342	Advanced Laboratory – Optics	1			
PHYS 431	Electricity & Magnetism	4			
PHYS 492	Research	1			
<b>Subtotal</b>		<b>32</b>	<b>Subtotal</b>		<b>10</b>
<b>Other Required Courses</b>			<b>Equivalent Courses at CCD</b>		
CHEM 121/L	General Chemistry I/Lab	(5)	CHE 111	General College Chemistry I	(5)
CHEM 122/L	General Chemistry II/Lab	(5)	CHE 112	General College Chemistry II	(5)
EN 101	Introduction to Engineering	2			
EN 103	Problem Solving for Engineers	3	CSC 119	Introduction to Programming	3
EN 107	Engineering Graphics	2			
EN 211	Engineering Mechanics I	3	EGG 211	Theoretical Mechanics – Statics	3
EN 212	Engineering Mechanics II	3			
EN 231/L	Circuit Analysis I/Lab	5			
EN 321	Thermodynamics I	3			
EN 324/L	Material Science & Engineering/Lab	4			
EN 441	Engineering Manufacturing Processes	4			

EN 443	Quality Control & Reliability	3			
EN 471	Operations Research	3			
MATH 126	Calculus & Analytic Geometry I	(5)	MAT 201	Calculus I (see Gen Ed Core)	(5)
MATH 207	Matrix & Vector Algebra w/App	2			
MATH 224	Calculus & Analytic Geometry II	5	MAT 202	Calculus II	5
MATH 325	Intermediate Calculus	3			
MATH 337	Differential Equations I	3			
Open Elective	May be any Academic Discipline	1	*COM 115	*Public Speaking *1 credit allowed in this section	3
<b>Subtotal</b>		<b>49</b>	<b>Subtotal</b>		<b>11</b>
<b>Total Credits for A.S.</b>					<b>60</b>
<b>Total Transfer Credit Accepted for A.S.</b>					<b>60</b>
<b>Total Additional Credit Required for B.S.</b>					<b>62</b>
<b>Total B.S. Degree Requirements</b>					<b>122</b>

Students who successfully complete this program as specified are eligible to apply for a *Destination CSU-Pueblo* scholarship.

This articulation transfer agreement replaces all previous agreements between CCD and CSU-Pueblo in Bachelor of Science in Physics (Engineering Emphasis). This agreement will be reviewed annually and revised (if necessary) as mutually agreed.

cam: 12/14/09  
revised: 06/02/10