Process Tech & Dual Credit

Linda LaCoe

NAPTA ISC X

Is you college wanting to begin a Dual Credit Program:

* Contact your College's Academic Affairs Educational Partnership department
  * They will do most of the work
* Talk with the High Schools in your District
  * Give them contact info for Educational Department
* Teach courses at your campus
  * Students bussed or drive themselves

Students

* Freshmen and Sophomores
  * Complete Dual Credit General Education courses are their campus or college
* Juniors and Seniors
  * Attend Dual Credit Process Tech courses at the college

Degree Plan Crosswalks

Course	H.S. Course
PTAC 1302 Intro to Process Technology	Process Tech 1A or Manufacturing & Engineering
PTAC 1308 Safety, Health, & Environment	Process Tech 1D or Manufacturing & Engineering
PTAC 1410 Process Tech I - Equipment	Process Tech 1B or Practicum in Manufacturing
PTAC 2314 Principles of Quality	Process Tech 1E or Manufacturing & Engineering
PTAC 1432 Instrumentation I	Process Tech 1C or Electronics
PTAC 1240 Employee Success in Energy Ind.	
PTAC 2420 Process Tech II - Systems	Process Tech 2A or Practicum in Manufacturing
HYDR 1391 Special Topics in Hydraulics	
ENGL 1301 Composition & Rhetoric I	English III A English IV A
MATH 1314 College Algebra	Algebra II B or Pre-Cal (B) or Independent Study in Math
CHEM 1405 Introductory Chemistry	Scientific Research & Design
SCIT 1318 Applied Physics	Principles of Technology, Scientific Research and Design
Humanities Elective	
Social/Behavioral Sciences Elective	

Partnership Agreement

Form No. OGC-S-2016-01(E)

Exhibit E
Process Tech Program Plan Amendment to
Dual Course Credit Partnership Agreement
Between Lone Star College and
Humble ISD

This Process Technology Program Plan Amendment is entered into by and between Lone Star College (the "College") and Humble Independent School District (the "School"). College and School do hereby agree to the following:

I. STATEMENT OF PURPOSE/INTENT

The purpose of this Amendment is to outline additional details related to dual credit courses and programs not specifically addressed in the Dual Course Credit Partnership Agreement, dated 6/8/2017 ("Agreement"). This is the first (first, second, third, etc.) amendment to the Agreement.

This Amendment sets out the terms and conditions of the articulation of students receiving credit from the College Process Technology (College Program) and the School Process Technology (School Program). The appended program curriculum guide has been reviewed by the appropriate administrators and faculty at each institution. All other terms and conditions stipulated in the Agreement shall remain in force and fully applicable to this Amendment. In the case of any conflict between this Amendment and the Exhibits, this Amendment will govern. In the case of any conflict between this Amendment and the Agreement, this Amendment will govern.

Partnership Agreement

ISD Courses	PEIMS Course #	High School Credits	HS Grade Level	Lone Star College Courses	Lone Star College Course #	College SCH	Weekly Contact Hours	Class Periods Needed Per Grade Level
Intro to Process Tech A	N1300262		Junior	Intro to Process Tech	PTAC 1302	3	48sch	1
Intro to Process Tech B	N1300262		Junior	Process Instrumentation I	PTAC 1432	4	96sch	1
Petrochemical Safety A	N1300264		Junior	Process Tech I - Equipment	PTAC 1410	4	80sch	1
Petrochemical Safety A	N1300264		Junior	Safety, Health & Envir I	PTAC 1308	3	48sch	1
Practicum In Manufacturing A	13033000		Senior	Process Tech II - Systems	PTAC 2420	4	96sch	1
Practicum In Manufacturing A	13033000		Senior	Refining Methods	PTRT 2343	3	48sch	1
Practicum In Manufacturing B	13033000		Senior	Process Tech III - Operations	PTAC 2438	4	80sch	1
Practicum In Manufacturing B	13033000		Senior	Process Trouble Shooting	PTAC 2446	4	80sch	1
See Attached	Process	Tech	Program	Sheet				

Partnership Agreement

Description	Approximate Cost	School	Shared	Lone Star College
Drug Testing & Background Check	$65 per student	X (student)		
Steel/Composite Toed Boots	$70 per student	X (student)		
Hard Hat	$10 per student	X (student)		
Safety Glasses	$5 per student	X (student)		
Textbooks (8 DC courses)	$805 per student	X		
Fees (8 DC courses)	$720 per student	X (student)		
Tuition (8 DC courses)	$1,276 per student			X
On-site equipment				X
Instructors (8 DC courses)	$24,500			X

TEKS – Principles of Technology

(8) The student describes the nature of forces in the physical world. The student is expected to:
(A) research and describe the historical development of the concepts of gravitational, electromagnetic, weak nuclear, and strong nuclear forces;
(B) describe and calculate the magnitude of gravitational forces between two objects;
(C) describe and calculate the magnitude of electrical forces;
(D) describe the nature and identify everyday examples of magnetic forces and fields;
(E) describe the nature and identify everyday examples of electromagnetic forces and fields;
(F) characterize materials as conductors or insulators based on their electrical properties;
(G) design and construct both series and parallel circuits and calculate current, potential difference, resistance, and power of various circuits;
(H) investigate and describe the relationship between electric and magnetic fields in applications such as generators, motors, and transformers; and
(I) describe technological applications of the strong and weak nuclear forces in nature.
(9) The student describes and applies the laws of the conservation of energy and momentum. The student is expected to:
(A) describe the transformational process between work, potential energy, and kinetic energy (work-energy theorem);
(B) use examples to analyze and calculate the relationships among work, kinetic energy, and potential energy;
(C) describe and calculate the mechanical energy of, the power generated within, the impulse applied to, and the momentum of a physical system; and
(D) describe and apply the laws of conservation of energy and conservation of momentum.
(10) The student analyzes the concept of thermal energy. The student is expected to:
(A) describe how the macroscopic properties of a thermodynamic system such as temperature, specific heat, and pressure are related to the molecular level of matter, including kinetic or potential energy of atoms;
(B) contrast and give examples of different processes of thermal energy transfer, including conduction, convection, and radiation; and
(C) analyze and explain technological examples such as solar and wind energy that illustrate the laws of thermodynamics, including the law of conservation of energy and the law of entropy.
(11) The student analyzes the properties of wave motion and optics. The student is expected to:
(A) examine and describe oscillatory motion and wave propagation in various types of media;
(B) investigate and analyze characteristics of waves, including period, velocity, frequency, amplitude, and wavelength;
(C) investigate and calculate the relationship between wave speed, frequency, and wavelength;
(D) compare and contrast the characteristics and behaviors of transverse waves, including electromagnetic waves and the electromagnetic spectrum, and longitudinal waves, including sound waves;
(E) investigate behaviors of waves, including reflection, refraction, diffraction, interference, resonance, polarization, and the Doppler effect;
(F) describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens; and
(G) describe the role of wave characteristics and behaviors in medical and industrial technology applications.
(12) The student analyzes the concepts of atomic, nuclear, and quantum phenomena. The student is expected to:
(A) describe the photoelectric effect and the dual nature of light;
(B) compare and explain emission spectra produced by various atoms;
(C) describe the significance of mass-energy equivalence and apply it in explanations of phenomena such as nuclear stability, fission, and fusion;
(D) describe the process of radioactive decay given an isotope and half-life;
(E) describe the role of mass-energy equivalence for areas such as nuclear stability, fission, and fusion; and
(F) explore technology applications of atomic, nuclear, and quantum phenomena such as nanotechnology, radiation therapy, diagnostic imaging, and nuclear power.

Source: The provisions of this §130.404 adopted to be effective August 28, 2017, 40 TexReg 9123.

Texas TEKS

* https://tea.texas.gov/Academics/Curriculum_Standards/TEKS_Texas_Essential_Knowledge_and_Skills_%28TEKS%29/Texas_Essential_Knowledge_and_Skills

Classes

* Students will only complete one course at a time
  * Semester with:
    * 6-week course (48 credit hours)
    * 10-week course (80 0R 96 credit hours)
  * Semester with:
    * 8-week courses (96 credit hours)

Issues

* Students don't take courses seriously
  * Just want to get out of classes
* Buses are late on dropping off students
* Students do not have anywhere to go if the instructor is out
* Too many extra curricular activities and not able to complete homework

Best Practices

* Let students help with the class
  * Develop test questions
* Make Kahoots for each chapter or test
  * Kahoot.com (Instructor to build)
  * Kahoot.it (students to complete)
  * My students introduced me to this!!!
* Don’t be fixed on a schedule
  * At first they may be late and it will throw everything off
* Leave a few days with nothing to do
  * Review or makeup missed items
  * Let the students work on other school work

Questions ?