



ARCHITECTURE AND CONSTRUCTION PROGRAMS - CATALOG YEAR 2014 - 2015

Find the Right Educational Degree Plan

There are two distinctly different ways to pursue your education at HCC. Each pattern has its own particular purpose, and its own advantages and disadvantages. Read the descriptions carefully to make an informed choice. You must choose one of the two following patterns: The *Academic*

Transfer pattern of education **OR** The *Workforce Career* pattern of education. For more information, visit our [College and Career Planner Guide](#).

CONSTRUCTION ENGINEERING TECHNOLOGY

Construction - General - AAS	2-3
Craft Management Specialization - AAS	4
Construction Technology - Certificate: Level I	5
Construction Helper - Certificate:Level I	6

HEATING, AIR CONDITIONING AND REFRIGERATION

Basic Air Conditioning and Refrigeration - Certificate: Level I.	7
Heating, Air Conditioning and Refrigeration Technology - Certificate: Level I.	8
Residential Building High Performance Technology Rater - Certificate: Level I	9

INDUSTRIAL ELECTRICITY

Electrical Helper - Certificate: Level I.	10
Electrical Power Technology - Certificate: Level I	11
Industrial Automation Technology - Certificate: Level I	12

PLUMBING

Plumbing Technology - Certificate: Level I	13
Plumbing Helper - Certificate: Level I.	14

**HOUSTON COMMUNITY COLLEGE SYSTEM
EDUCATIONAL PLAN/TRANSFER SUBSTITUTION PETITION**

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NAME:	SID#:	TEL#:	EMAIL:	DATE:
COLLEGE:	COU/ADV:	TEL#:	EMAIL:	CAT YR: 8/15/14-8/14/15

CONSTRUCTION TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE

HCCS Course Requirement	cr	Transfer	Substitute	Substitute (SU)	Term	Credits	Grade	Approval	Date
TSI testing is required prior to first enrollment.									
FIRST YEAR									
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
TECM 1301 Industrial Mathematics	3								
CNBT 1201 Introduction to Construction Industry	2								
CNBT 1318 Construction Tools and Techniques	3								
CNBT 1300 Residential and Light Commercial Blueprint Reading	3								
CNBT 1311 Construction Methods and Materials I	3								
SEMESTER TOTAL	16								
SECOND SEMESTER									
ITSC 1309 Integrated Software Applications I	3								
HART 1307 Refrigeration Principles <i>OR</i>									
ELPT 1329 Residential Wiring	3								
CNBT 1302 Mechanical, Plumbing, and Electrical Systems in Construction	3								
CNBT 1316 Construction Technology I	3								
SEMESTER TOTAL	12								
SECOND YEAR									
FIRST SEMESTER									
XXXX #3## General Education Elective	3								
CNBT 1342 Building Codes and Inspections	3								
BMGT 1301 Supervision	3								
XXXX #3## Humanities/Fine Arts General Ed. Elective	3								
SEMESTER TOTAL	12								
(Continued on page 2)									

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CONSTRUCTION TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
SECOND SEMESTER									
CNBT 1346 Construction Estimating I	3								
CNBT 2342 Construction Management I	3								
XXXX #3## Math/Natural Science General Ed. Elective	3								
XXXX #3## General Education Elective	3								
XXXX #3## Social/Behavioral Science General Ed. Elective	3								
SEMESTER TOTAL	15								
THIRD SEMESTER									
CNBT 2337 Construction Estimating II <u>OR</u>									
BUSG 1303 Principles of Finance <u>OR</u>									
BMGT 1313 Principles of Purchasing	3								
CNBT 2335 Computer- Aided Construction Scheduling	3								
SEMESTER TOTAL	6								
PROGRAM TOTAL	61								

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CONSTRUCTION TECHNOLOGY - CRAFT MANAGEMENT SPECIALIZATION - ASSOCIATE IN APPLIED SCIENCE

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI testing is required prior to first enrollment.									
FIRST YEAR									
Block credit for approved certification 24 semester hours.	22								
LEAD 1370 Workforce Development and Critical Thinking									
Skills for Student Success	3								
SEMESTER TOTAL	25								
SECOND YEAR									
FIRST SEMESTER									
XXXX #3## General Education Elective	3								
CNBT 1342 Building Codes and Inspections	3								
BMGT 1301 Supervision	3								
ITSC 1309 Integrated Software Applications I	3								
XXXX #3## Humanities/ Fine Arts General Ed. Elective	3								
SEMESTER TOTAL	15								
SECOND SEMESTER									
CNBT 1346 Construction Estimating I	3								
CNBT 2342 Construction Management I	3								
XXXX #3## Math/ Natural Science General Ed. Elective	3								
XXXX #3## General Education Elective	3								
XXXX #3## Social/Behavioral Science General Ed. Elective	3								
SEMESTER TOTAL	15								
THIRD SEMESTER									
CNBT 2337 Construction Estimating II	3								
CNBT 2335 Computer-Aided Construction Scheduling	3								
SEMESTER TOTAL	6								
PROGRAM TOTAL	61								

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CONSTRUCTION TECHNOLOGY - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
TECM 1301 Industrial Mathematics	3								
CNBT 1201 Introduction to the Construction Industry	2								
CNBT 1318 Construction Tools and Techniques	3								
CNBT 1300 Residential and Light Commercial Blueprint Reading	3								
CNBT 1311 Construction Methods and Materials I	3								
SEMESTER TOTAL	16								
SECOND SEMESTER									
ITSC 1309 Integrated Software Applications I	3								
HART 1307 Refrigeration Principles	3								
ELPT 1329 Residential Wiring	3								
CNBT #3## Department Approved Elective	3								
CNBT 1302 Mechanical, Plumbing and Electrical Systems in Construction I	3								
CNBT 1316 Construction Technology I	3								
SEMESTER TOTAL	18								
PROGRAM TOTAL	34								

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CONSTRUCTION TECHNOLOGY- CONSTRUCTION HELPER - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
TECM 1301 Industrial Mathematics	3								
CNBT 1201 Introduction to Construction Industry	2								
CNBT 1318 Construction Tools and Techniques	3								
CNBT 1300 Residential and Light Commercial Blueprint Reading	3								
CNBT 1311 Construction Methods and Materials I	3								
SEMESTER TOTAL	18								
PROGRAM TOTAL	34								

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HEATING, AIR CONDITIONING AND REFRIGERATION - BASIC AIR CONDITIONING AND REFRIGERATION - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr	Transfer	Substitute	Substitute (SU)	Term	Credits	Grade	Approval Signature	Date
	hr	Institution	Course	Transfer (TR)	Comment/Disapproval				
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
TECM 1301 Industrial Mathematics	3								
HART 1303 Air Conditioning Control Principles	3								
HART 1307 Refrigeration Principles	3								
HART 1341 Residential Air Conditioning	3								
HART 1345 Gas and Electric Heating	3								
SEMESTER TOTAL	17								
PROGRAM TOTAL	17								

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HEATING, AIR CONDITIONING AND REFRIGERATION - HEATING, AIR CONDITIONING AND REFRIGERATION TECHNOLOGY - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
TECM 1301 Industrial Mathematics	3								
HART 1303 Air Conditioning Control Principles	3								
HART 1307 Refrigeration Principles	3								
HART 1341 Residential Air Conditioning**	3								
HART 1345 Gas and Electric Heating**	3								
SEMESTER TOTAL	17								
SECOND SEMESTER									
HART 1356 EPA Recovery Certification Preparation***	3								
HART 2334 Advanced Air Conditioning Controls**	3								
HART 2336 Air Conditioning Troubleshooting*	3								
HART 2342 Commercial Refrigeration**	3								
SEMESTER TOTAL	12								
THIRD SEMESTER									
HART 2341 Commercial Air Conditioning	3								
HART 2345 Residential Air Conditioning Systems Design	3								
HART 2349 Heat Pumps**	3								
HART 2357 Specialized Commercial Refrigeration**	3								
SEMESTER TOTAL	12								
PROGRAM TOTAL	41								
*The capstone course is HART 2336, Air Conditioning Troubleshooting.									
**Employment Certification (ER) required.									
***EPA Certification Required.									
NOTE: EPA Certification and all Employment Ready Certifications are nationally recognized and offered by HVAC Excellence. http://www.hvaexcellence.org/									

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HEATING, AIR CONDITIONING AND REFRIGERATION - RESIDENTIAL BUILDING HIGH PERFORMANCE TECHNOLOGY-RATER - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
RBPT 1300 Fundamentals of Residential Building Science	3								
RBPT 1305 Residential Lighting, Appliances, & Plug Loads	3								
RBPT 1310 Residential Mechanical Systems	3								
SEMESTER TOTAL	11								
SECOND SEMESTER									
RBPT 2320 Residential Energy Conservation Codes	3								
RBPT 2325 Energy Rating Systems for Homes	3								
RBPT 2315 Green Rating Systems for Homes	3								
RBPT 2330 Advanced Residential Building Science and Systems	3								
SEMESTER TOTAL	12								
THIRD SEMESTER									
RBPT 2340 Advanced Residential Mechanical Systems	3								
RBPT 2355 Sustainable Neighborhood Development	3								
SEMESTER TOTAL	6								
PROGRAM TOTAL	29								

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INDUSTRIAL ELECTRICITY - ELECTRICAL HELPER - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
TECM 1301 Industrial Mathematics	3								
ELPT 1221 Introduction to Electrical Safety and Tools	2								
ELPT 1311 Basic Electrical Theory	3								
ELPT 1325 National Electrical Code I	3								
ELPT 1329 Residential Wiring	3								
ELPT 1345 Commercial Wiring	3								
SEMESTER TOTAL	19								
PROGRAM TOTAL	19								

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INDUSTRIAL ELECTRICITY - ELECTRICAL POWER TECHNOLOGY - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
TECM 1301 Industrial Mathematics	3								
ELPT 1221 Introduction to Electrical Safety and Tools	2								
ELPT 1325 National Electrical Code I	3								
ELPT 1311 Basic Electrical Theory	3								
ELPT 1329 Residential Wiring	3								
SEMESTER TOTAL	16								
SECOND SEMESTER									
ELPT 1341 Motor Control	3								
CNBT 1300 Residential and Light Commercial Blueprint Reading	3								
ELMT 1301 Programmable Logic Controllers	3								
ELPT 1345 Commercial Wiring	3								
ELPT 2325 National Electrical Code II <i>OR</i>									
ELPT 1355 Electronic Applications	3								
SEMESTER TOTAL	15								
THIRD SEMESTER									
XXXX #3## Department Approved Elective	3								
ELPT 2301 Journeyman Electrician Exam Review <i>OR</i>									
CNBT 1302 Mechanical, Plumbing and Electrical Systems in Construction	3								
SEMESTER TOTAL	6								
PROGRAM TOTAL	37								

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INDUSTRIAL ELECTRICITY - INDUSTRIAL AUTOMATION TECHNOLOGY - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
TECM 1301 Industrial Mathematics	3								
ELPT 1221 Introduction to Electrical Safety and Tools	2								
ELPT 1311 Basic Electrical Theory	3								
ELPT 1341 Motor Control	3								
ELMT 1301 Programmable Logic Controllers	3								
SEMESTER TOTAL	16								
SECOND SEMESTER									
ELPT 1355 Electronic Applications	3								
ELPT 2419 Programmable Logic Controllers I	4								
HYDR 1345 Hydraulics and Pneumatics	3								
INCR 1302 Physics of Instrumentation	3								
ELPT 1325 National Electrical Code I	3								
SEMESTER TOTAL	16								
THIRD SEMESTER									
ELPT 2455 Programmable Logic Controllers II	4								
ELPT 2449 Industrial Automation	4								
SEMESTER TOTAL	8								
PROGRAM TOTAL	40								

Updated: 04/30/2013

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PLUMBING TECHNOLOGY - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
									Comment/Disapproval
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
TECM 1301 Industrial Mathematics	3								
PFPB 1313 Introduction to the Plumbing Trade	3								
PFPB 1306 Basic Blueprint Reading for Plumbers	3								
PFPB 2409 Residential Construction Plumbing	4								
SEMESTER TOTAL	15								
SECOND SEMESTER									
PFPB 1319 Commercial Plumbing	3								
PFPB 1323 Plumbing Codes I	3								
CNBT 1302 Mechanical, Plumbing & Electrical Systems in Construction I	3								
PFPB 1321 Plumbing Maintenance and Repair	3								
SEMESTER TOTAL	12								
PROGRAM TOTAL	27								

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PLUMBING HELPER - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
FIRST SEMESTER									
LEAD 1200 Workforce Development with Critical Thinking	2								
TECM 1301 Industrial Mathematics	3								
PFPB 1313 Introduction to the Plumbing Trade	3								
PFPB 1306 Basic Blueprint Reading for Plumbers	3								
PFPB 2409 Residential Construction Plumbing	4								
SEMESTER TOTAL	15								
PROGRAM TOTAL	15								