



# COE CONSTRUCTION PROGRAMS - CATALOG YEAR 2016 - 2017

## 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

### CONSTRUCTION TECHNOLOGY

Construction Technology - 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
Advanced Heating, Air Conditioning and Refrigeration Technology - Certificate: . Level I . . . . .	.8

### INDUSTRIAL ELECTRICITY

Electrical Helper - Certificate: Level I. . . . .	.9
Electrical & Power Transmission Installers - Solar Photovoltaic System . Installer - Certificate Level I. . . . .	.10
Electrical Power Technology - Certificate: Level I . . . . .	11
Industrial Automation Technology - Certificate: Level I . . . . .	12

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

\_\_\_ FA \_\_\_ VA

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<b>COLLEGE:</b>	<b>COU/ADV:</b>	<b>TEL#:</b>	<b>EMAIL:</b>	<b>CAT YR: 8/15/16-8/14/17</b>

**CONSTRUCTION TECHNOLOGY - ASSOCIATE OF 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.									
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
ELPT 1315 Electrical Calculations I *	3								
CNBT 1301 Introduction to Construction Industry	3								
CNBT 1318 Construction Tools and Techniques	3								
CNBT 1300 Residential and Light Commercial Blueprint Reading	3								
CNBT 1311 Construction Methods and Materials I	3								
<b>SEMESTER TOTAL</b>	<b>18</b>								
<b>SECOND SEMESTER</b>									
CNBT 1342 Building Codes and Inspections	3								
ELPT 1329 Residential Wiring	3								
CNBT 1346 Construction Estimating I	3								
CNBT 1302 Mechanical, Plumbing, and Electrical Systems in Construction	3								
CNBT 1316 Construction Technology I	3								
<b>SEMESTER TOTAL</b>	<b>15</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
XXXX #3## General Education Elective	3								
CNBT 2337 Construction Estimating II	3								
XXXX #3## Humanities/Fine Arts General Education Elective	3								
<b>SEMESTER TOTAL</b>	<b>9</b>								
* Replaces TECM 1301 Industrial Mathematics									
<b>(Continued on page 2)</b>									

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**CONSTRUCTION TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
<b>SECOND SEMESTER</b>									
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								
<b>SEMESTER TOTAL</b>	<b>12</b>								
<b>THIRD SEMESTER</b>									
CNBT 1391 Special Topics in Construction/Building Technology/Technician	3								
CNBT 2335 Computer- Aided Construction Scheduling**	3								
<b>SEMESTER TOTAL</b>	<b>6</b>								
<b>PROGRAM TOTAL</b>	<b>60</b>								
<b>**CAPSTONE CLASS</b>									

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**CONSTRUCTION TECHNOLOGY - CRAFT MANAGEMENT SPECIALIZATION - ASSOCIATE OF APPLIED SCIENCE**

HCCS Course Requirement	cr	Transfer	Substitute	Substitute (SU)	Term	Credits	Grade	Approval	Date
	hr	Institution	Course	Transfer (TR)				Signature	
Comment/Disapproval									
TSI testing is required prior to first enrollment.									
<b>FIRST YEAR</b>									
<b>Block credit for approved certification 21 semester hours.</b>									
LEAD 1370 Workforce Development and Critical Thinking	21								
Skills for Student Success	3								
<b>SEMESTER TOTAL</b>	<b>24</b>								
<b>SECOND YEAR</b>									
<b>FIRST SEMESTER</b>									
XXXX #3## General Education Elective	3								
CNBT 1342 Building Codes and Inspections	3								
CNBT 2335 Computer-Aided Construction Scheduling	3								
CNBT 1300 Residential and Light Commercial Blueprint Reading	3								
XXXX #3## Humanities/ Fine Arts General Ed. Elective	3								
<b>SEMESTER TOTAL</b>	<b>15</b>								
<b>SECOND SEMESTER</b>									
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								
<b>SEMESTER TOTAL</b>	<b>15</b>								
<b>THIRD SEMESTER</b>									
CNBT 2337 Construction Estimating II	3								
CNBT 1391 Special Topics in Construction/ Building Technology/Technician	3								
<b>SEMESTER TOTAL</b>	<b>6</b>								
<b>PROGRAM TOTAL</b>	<b>60</b>								
<b>** CAPSTONE CLASS</b>									

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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				
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ELPT 1315 Electrical Calculations I *	3								
CNBT 1301 Introduction to the Construction Industry	3								
CNBT 1318 Construction Tools and Techniques	3								
CNBT 1300 Residential and Light Commercial Blueprint Reading	3								
CNBT 1311 Construction Methods and Materials I	3								
<b>SEMESTER TOTAL</b>	<b>18</b>								
<b>SECOND SEMESTER</b>									
CNBT 2335 Computer-Aided Construction Scheduling	3								
ELPT 1329 Residential Wiring	3								
CNBT 1302 Mechanical, Plumbing and Electrical Systems in Construction I	3								
CNBT 1316 Construction Technology I **	3								
<b>SEMESTER TOTAL</b>	<b>12</b>								
<b>PROGRAM TOTAL</b>	<b>30</b>								
<b>** CAPSTONE CLASS</b>									
<b>* Replaces TECM 1301 Industrial Mathematics</b>									





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**HEATING, AIR CONDITIONING AND REFRIGERATION - ADVANCED 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
					Comment/Disapproval				
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
ELPT 1315 Electrical Calculations I ****	3								
HART 1301 Basic Electricity for HVAC	3								
HART 1307 Refrigeration Principles	3								
HART 1341 Residential Air Conditioning **	3								
HART 1345 Gas and Electric Heating **	3								
<b>SEMESTER TOTAL</b>	<b>18</b>								
<b>SECOND SEMESTER</b>									
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								
<b>SEMESTER TOTAL</b>	<b>12</b>								
<b>THIRD SEMESTER</b>									
HART 2302 Commercial Air Conditioning System Design	3								
HART 2345 Residential Air Conditioning Systems Design	3								
HART 2341 Commercial Air Conditioning	3								
HART 2349 Heat Pumps **	3								
<b>SEMESTER TOTAL</b>	<b>12</b>								
<b>PROGRAM TOTAL</b>	<b>42</b>								
* The capstone course is HART 2336, Air Conditioning Troubleshooting.									
** Employment Certification (ER) required.									
*** EPA Certification Required.									
**** Replaces TECM 1301 Industrial Mathematics									
<b>NOTE: EPA Certification and all Employment Ready Certifications are nationally recognized and offered by HVAC Excellence. <a href="http://www.hvaexcellence.org/">http://www.hvaexcellence.org/</a></b>									





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**ELECTRICAL & POWER TRANSMISSION INSTALLERS - SOLAR PHOTOVOLTAIC SYSTEM INSTALLER - CERTIFICATE: LEVEL I**

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
<b>FIRST YEAR</b>									
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ELPT 1315 Electrical Calculations I *	3								
ELPT 1221 Introduction to Electrical Safety and Tools	2								
ELPT 1311 Basic Electrical Theory	3								
ELMT 1311 Solar Fundamentals	3								
ELMT 1402 Solar Photovoltaic Systems	4								
<b>SEMESTER TOTAL</b>	<b>18</b>								
<b>PROGRAM TOTAL</b>	<b>18</b>								
* Replaces TECM 1301 Industrial Mathematics									

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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				
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ELPT 1315 Electrical Calculations I *	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								
<b>SEMESTER TOTAL</b>	<b>17</b>								
<b>SECOND SEMESTER</b>									
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								
<b>SEMESTER TOTAL</b>	<b>15</b>								
<b>THIRD SEMESTER</b>									
XXXX #3## Department Approved Elective	3								
ELPT 2301 Journeyman Electrician Exam Review <i>OR</i>									
CNBT 1302 Mechanical, Plumbing and Electrical Systems in Construction <b>**</b>	3								
<b>SEMESTER TOTAL</b>	<b>6</b>								
<b>PROGRAM TOTAL</b>	<b>38</b>								
<b>** CAPSTONE CLASS</b>									
<i>* Replaces TECM 1301 Industrial Mathematics</i>									

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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
					Comment/Disapproval				
<b>FIRST SEMESTER</b>									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
ELPT 1315 Electrical Calculations I *	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								
<b>SEMESTER TOTAL</b>	<b>17</b>								
<b>SECOND SEMESTER</b>									
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								
<b>SEMESTER TOTAL</b>	<b>16</b>								
<b>THIRD SEMESTER</b>									
ELPT 2455 Programmable Logic Controllers II	4								
ELPT 2449 Industrial Automation **	4								
<b>SEMESTER TOTAL</b>	<b>8</b>								
<b>PROGRAM TOTAL</b>	<b>41</b>								
<b>** CAPSTONE CLASS</b>									
* Replaces TECM 1301 Industrial Mathematics									