Manufacturing Programs - Catalog Year 2015 - 2016

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.

Workforce Careers

Corrosion Technology

Corrosion Technology - AAS 2
Atmospheric Corrosion - Certificate Level I. 3
Cathodic Protection - Certificate Level I. 4

Machining Technology

Machining Technology - AAS 5
Machining Technology - Certificate Level I 6
Machining Technology - Machine Shop Technology/Assistant - Certificate Level I . 7

Manufacturing Engineering Technology

Manufacturing Engineering Technology - AAS 8-9
Manufacturing Engineering Technology - Technician - Certificate Level II . . 10
Manufacturing Engineering Technology - Helper - Certificate Level I 11

Welding

Basic Welding Helper - Certificate Level I 12
Advanced Welding - Certificate Level I 13

Updated: 12/01/2015

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HOUSTON COMMUNITY COLLEGE SYSTEM
EDUCATIONAL PLAN/TRANSFER SUBSTITUTION PETITION

NAME:	SID#:	TEL#:	EMAIL:	DATE:
COLLEGE:	COU/ADV:	TEL#:	EMAIL:	CAT YR: 8/15/15-8/14/16

CORROSION TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term / Comment/Disapproval	Credits	Grade	Approval Signature	Date
TSI testing required prior to first enrollment.									
FIRST YEAR									
First Semester	**15**								
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
METL 1313 Introduction to Corrosion	3								
ENGL 1301 Composition I	3								
ENTC 2331 Manufacturing Materials	3								
MATH 1314 College Algebra	3								
Second Semester	**13**								
XXXX #3## Natural Science Elective	3								
METL 1301 Introduction to Metallurgy	3								
METL 2441 Cathodic Protection	4								
DFTG 1305 Technical Drafting	3								
SECOND YEAR									
First Semester	**16**								
XXXX #3## Humanities/Fine Arts Elective	3								
INMT 1311 Computer Integrated Manufacturing	3								
HYDR 1345 Hydraulics and Pneumatics	3								
NDTE 1405 Introduction to Ultrasonics	4								
ENTC 1347 Safety and Ergonomics ***OR***									
OSHT 1301 Introduction to Safety and Health	3								
Second Semester	**16**								
INMT 1343 Computer Aided Design/Computer Aided									
Manufacturing (CAD-CAM)	3								
METL 2305 Atmospheric Corrosion Control	3								
INMT 1317 Industrial Automation	3								
CETT 1409 DC-AC Circuits	4								
XXXX #3## Social/ Behavioral Science Elective	3								
Program Total	**60**								

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Updated: 06/17/2014

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HOUSTON COMMUNITY COLLEGE SYSTEM
EDUCATIONAL PLAN/TRANSFER SUBSTITUTION PETITION

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COLLEGE:	COU/ADV:	TEL#:	EMAIL:	CAT YR: 8/15/15-8/14/16

CORROSION TECHNOLOGY - ATMOSPHERIC 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 YEAR									
First Semester	**15**								
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
METL 1313 Introduction to Corrosion	3								
OSHT 1301 Introduction to Safety and Health									
DFTG #3## ***OR*** Drafting Elective									
WLDG 1407 ***OR*** Introduction to Welding Using									
Multiple Processes	3								
ITSC 1309 Integrated Software Applications I	3								
DFTG 1305 Technical Drafting	3								
Second Semester	**11**								
METL 2405 Atmospheric Corrosion Control	4								
METL 1301 Introduction to Metallurgy	3								
NDTE 1405 Introduction to Ultrasonics	4								
Program Total	**26**								

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HOUSTON COMMUNITY COLLEGE SYSTEM
EDUCATIONAL PLAN/TRANSFER SUBSTITUTION PETITION

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CORROSION TECHNOLOGY - CATHODIC PROTECTION - 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 YEAR									
First Semester 15–16									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
METL 1313 Introduction to Corrosion	3								
DFTG 1305 Technical Drafting	3								
CETT 1409 DC - AC Circuits ***OR***									
ELPT 1311 Basic Electrical Theory	3/4								
ITSC 1309 Integrated Software Applications I	3								
Second Semester	11								
METL 2441 Cathodic Protection	4								
METL 1301 Introduction to Metallurgy	3								
NDTE 1405 Introduction to Ultrasonics	4								
Program Total 26–27									

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HOUSTON COMMUNITY COLLEGE SYSTEM
EDUCATIONAL PLAN/TRANSFER SUBSTITUTION PETITION

NAME:	SID#:	TEL#:	EMAIL:	DATE:
COLLEGE:	COU/ADV:	TEL#:	EMAIL:	CAT YR: 8/15/15-8/14/16

MACHINING TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term / Comment/Disapproval	Credits	Grade	Approval Signature	Date
TSI testing required prior to first enrollment.									
FIRST YEAR									
First Semester	**15**								
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
MCHN 1343 Machine Shop Mathematics (Spring 2016)	3								
MCHN 1302 Print Reading for Machining Trades	3								
MCHN 1320 Precision Tools and Measurement	3								
MCHN 1338 Basic Machine Shop I	3								
Second Semester	**15**								
HYDR 1345 Hydraulics and Pneumatics	3								
ENTC 1347 Safety and Ergonomics	3								
MCHN 1308 Basic Lathe	3								
MCHN 1313 Basic Milling Operations	3								
MCHN 1305 Metals and Heat Treatment	3								
SECOND YEAR									
First Semester	**12**								
MCHN 2333 Advanced Lathe Operations	3								
MCHN 2337 Advanced Milling Operations	3								
INMT 1370 Lean Manufacturing-Machinist **	3								
MCHN 2331 Operation of CNC Turning Centers ***OR***									
INMT 1345 Computer Numerical Controls	3								
Second Semester	**15**								
XXXX #3## Social/Behavioral Science/General Ed. Elective	3								
HUMA 1301 Introduction to Humanities ***OR***									
XXXX #3## Approved Fine Arts/Humanities Elective	3								
ARTS 1316 Foundation Drawing I ***OR***									
XXXX #3## General Education Elective	3								
ARTS 2341 Art Metals I ***OR***									
XXXX #3## General Education Elective	3								
XXXX #3## Math/Natural Science General Ed. Elective	3								
Third Semester	**3**								
MCHN 2341 Advanced Machining I	3								
Program Total	**60**	The **capstone course is MCHN 1370 - Lean Manufacturing - Machinist.							

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HOUSTON COMMUNITY COLLEGE SYSTEM
EDUCATIONAL PLAN/TRANSFER SUBSTITUTION PETITION

NAME:	SID#:	TEL#:	EMAIL:	DATE:
COLLEGE:	COU/ADV:	TEL#:	EMAIL:	CAT YR: 8/15/15-8/14/16

MACHINING TECHNOLOGY - BASIC - 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 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
TECM 1301 Industrial Mathematics	3								
MCHN 1302 Print Reading for Machining Trades	3								
MCHN 1320 Precision Tools and Measurement	3								
MCHN 1338 Basic Machine Shop I	3								
Semester Total	**15**								
Second Semester									
ENTC 1347 Safety and Ergonomics	3								
MCHN 1308 Basic Lathe	3								
MCHN 1313 Basic Milling Operations**	3								
HYDR 1345 Hydraulics and Pneumatics	3								
MCHN 1305 Metals and Heat Treatment	3								
Semester Total	**15**								
Program Total	**30**								

The **capstone is MCHN 1313 - Basic Milling Operations.

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MACHINING TECHNOLOGY - MACHINE SHOP TECHNOLOGY/ASSISTANT - CERTIFICATE: LEVEL II

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
FIRST YEAR									
First Semester									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
TECM 1301 Industrial Mathematics	3								
MCHN 1302 Print Reading for Machining Trades	3								
MCHN 1320 Precision Tools and Measurement	3								
MCHN 1338 Basic Machine Shop I	3								
Semester Total	**15**								
Second Semester									
ENTC 1347 Safety and Ergonomics	3								
HYDR 1345 Hydraulics and Pneumatics	3								
MCHN 1308 Basic Lathe	3								
MCHN 1313 Basic Milling Operations	3								
MCHN 1305 Metals and Heat Treatment	3								
Semester Total	**15**								
SECOND YEAR									
First Semester									
MCHN 2337 Advanced Milling Operations	3								
MCHN 2333 Advanced Lathe Operations	3								
INMT 1370 Lean Manufacturing	3								
MCHN 2331 Operation of CNC Turning Centers ***OR***									
INMT 1345 Computer Numerical Controls	3								
MCHN 2341 Advanced Machining I**	3								
Semester Total	**15**								
Program Total	**45**								

The **capstone is MCHN 2341 - Advanced Maching I.

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COLLEGE:	COU/ADV:	TEL#:	EMAIL:	CAT YR: 8/15/15-8/14/16

MANUFACTURING ENGINEERING 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				
TSI Testing required prior to first enrollment.									
FIRST YEAR									
First Semester									
LEAD 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
TECM 1301 Industrial Mathematics	3								
MCHN 1302 Print Reading for Machining Trades	3								
ENTC 1347 Safety and Ergonomics	3								
MCHN 1338 Basic Machine Shop I	3								
Semester Total	**15**								
Second Semester									
HYDR 1345 Hydraulics and Pneumatics	3								
ELPT 1311 Basic Electrical Theory	3								
MCHN 1308 Basic Lathe	3								
MCHN 1313 Basic Milling Operations	3								
INMT 1345 Computer Numerical Controls	3								
Semester Total	**15**								
SECOND YEAR									
First Semester									
INMT 1317 Industrial Automation	3								
INCR 1302 Physics of Instrumentation	3								
MCHN 2331 Operation of CNC Turning Centers	3								
INMT 1343 Computer Aided Design/Computer Aided									
Manufacturing (CAD/CAM)	3								
INMT 1370 Lean Manufacturing**	3								
Semester Total	**15**								

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COLLEGE:	COU/ADV:		TEL#:	EMAIL:	CAT YR: 8/15/15-8/14/16

MANUFACTURING ENGINEERING 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									
XXXX #3## Social/Behavioral Science Elective	3								
ARTS 2341 Art Metals I ***OR***									
XXXX #3## General Education Elective	3								
ARTS 1316 Foundation Drawing I	3								
HUMA 1301 Introduction to Humanities OR									
XXXX #3## General Education Elective	3								
XXXX #3## Math/Natural Science Elective	3								
SEMESTER TOTAL	**15**								
PROGRAM TOTAL	**60**								
**Capstone									

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NAME:	SID#:	TEL#:	EMAIL:	DATE:
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MANUFACTURING ENGINEERING TECHNOLOGY - TECHNICIAN - CERTIFICATE: LEVEL II

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term	Credits	Grade	Approval Signature	Date
					Comment/Disapproval				
TSI Testing required prior to first enrollment.									
First Semester									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
TECM 1301 Industrial Mathematics	3								
MCHN 1302 Print Reading for Machining Trades	3								
ENTC 1347 Safety and Ergonomics	3								
MCHN 1338 Basic Machine Shop I	3								
Semester Total	**15**								
Second Semester									
HYDR 1345 Hydraulics and Pneumatics	3								
ELPT 1311 Basic Electrical Theory	3								
MCHN 1308 Basic Lathe	3								
MCHN 1313 Basic Milling Operations	3								
INMT 1345 Computer Numerical Controls	3								
Semester Total	**15**								
Third Semester									
MCHN 2331 Operation of CNC Turning Centers	3								
INMT 1343 Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)	3								
INCR 1302 Physics of Instrumentation	3								
INMT 1317 Industrial Automation	3								
INMT 1370 Lean Manufacturing	3								
Semester Total	**15**								
Program Total	**45**								

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COLLEGE:	COU/ADV:	TEL#:	EMAIL:	CAT YR: 8/15/15-8/14/16

MANUFACTURING ENGINEERING TECHNOLOGY - 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 1370 Workforce Leadership and Critical Thinking									
Skills for Student Success	3								
TECM 1301 Industrial Mathematics	3								
MCHN 1302 Print Reading for Machining Trades	3								
ENTC 1347 Safety and Ergonomics	3								
MCHN 1338 Basic Machine Shop I	3								
Semester Total	**15**								
Second Semester									
HYDR 1345 Hydraulics and Pneumatics	3								
ELPT 1311 Basic Electrical Theory	3								
MCHN 1308 Basic Lathe	3								
MCHN 1313 Basic Milling Operations	3								
Semester Total	**15**								
Program Total	**27**								

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NAME:	SID#:	TEL#:	EMAIL:	DATE:
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WELDING TECHNOLOGY - BASIC WELDING HELPER - CERTIFICATE: LEVEL I

HCCS Course Requirement	cr hr	Transfer Institution	Substitute Course	Substitute (SU) Transfer (TR)	Term / Comment/Disapproval	Credits	Grade	Approval Signature	Date
First Semester									
LEAD 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
TECM 1301 Industrial Mathematics	3								
WLDG 1421 Introduction to Welding Fundamentals	4								
WLDG 1313 Introduction to Blueprint Reading for Welders	3								
WLDG 1407 Introduction to Welding Using Multiple Process	4								
Program Total	**17**								

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WELDING TECHNOLOGY - ADVANCED WELDING - INTERMEDIATE 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 1370 Workforce Leadership and Critical Thinking Skills for Student Success	3								
TECM 1301 Industrial Mathematics	3								
WLDG 1421 Introduction to Welding Fundamentals	4								
WLDG 1313 Introduction to Blueprint Reading for Welders	3								
WLDG 1407 Introduction to Welding Using Multiple Process	4								
Semester Total	**17**								
Second Semester									
WLDG 1430 Introduction to Gas Metal Arc MIG Welding (GMAW)	4								
WLDG 1434 Introduction to Gas Tungsten Arc TIG Welding (GTAW)	4								
WLDG 1435 Introduction to Pipe Welding	4								
Semester Total	**12**								
Third Semester									
WLDG 2447 Advanced Gas Metal Arc MIG Welding (GMAW)	4								
WLDG 2451 Advanced Tungsten Arc Welding (GTAW)	4								
WLDG 2453 Advanced Pipe Welding	4								
Semester Total	**12**								
Program Total	**41**								

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