

# SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS PROGRAMS - YEAR 2013 - 2014



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**UPDATED: 09/23/2014**

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

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

<b>NAME:</b>	<b>SS#:</b>	<b>DATE:</b>
<b>COLLEGE:</b>	<b>COUNSELOR/ADVISOR:</b>	<b>CATALOG YEAR: 13-14</b>

**BIOTECHNOLOGY- ASSOCIATE IN APPLIED SCIENCE**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.				<i>This award is deactivated as of June 1, 2013.</i>		
<b>FIRST YEAR</b>				<i>New students will not be admitted into the program.</i>		
<b>FIRST SEMESTER</b>				<i>The program is currently in teach-out status.</i>		
ENGR 1201 Introduction to Engineering						
BITC 1311 Introduction to Biotechnology						
BITC 1402 Biotechnology Laboratory Methods and Techniques						
MATH 1314 College Algebra						
SCIT 1414 Applied General Chemistry I <b>OR</b>						
CHEM 1411 General Chemistry I						
<b>SECOND SEMESTER</b>						
BITC 2411 Biotechnology Laboratory Instrumentation						
BIOL 1406 General Biology I						
ENGL 1301 Composition I						
BITC 1370 Introduction to Biochemistry						
<b>THIRD SEMESTER</b>						
SCIT 2401 Applied Organic Chemistry I <b>OR</b>						
CHEM 2423 Organic Chemistry I						
XXXX #3## Social/Behavioral Science General Ed. Elective						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
BITC 2431 Cell Culture Techniques						
BITC 2441 Molecular Biology Techniques						
BIOL 2420 Microbiology						
BIOL 2401 Anatomy and Physiology I <b>OR</b>						
SCIT 1407 Applied Human Anatomy and Physiology I						
<b>SECOND SEMESTER</b>						
BITC 2445 Medical Biotechnology						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
BITC 2386 Internship- Biological Technology/Technician <b>OR</b>						
BITC 1491 Special Topics in Biological Tech/Technician						
BITC 2472 Immunological Methods and Techniques						

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<b>COLLEGE:</b>	<b>COUNSELOR/ADVISOR:</b>	<b>CATALOG YEAR: 13-14</b>

**BIOTECHNOLOGY - CERTIFICATE - BIOTECHNOLOGY**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
<b>FIRST YEAR</b>				<i>This award is deactivated as of June 1, 2013.</i>		
				<i>New students will not be admitted into the program.</i>		
				<i>The program is currently in teach-out status.</i>		
<b>FIRST SEMESTER</b>						
ENGR 1201 Introduction to Engineering						
BITC 1311 Introduction to Biotechnology						
ENGL 1301 Composition I						
MATH 1314 College Algebra						
CHEM 1411 General Chemistry I OR						
SCIT 1414 Applied General Chemistry I						
<b>SECOND SEMESTER</b>						
BITC 1402 Biotechnology Laboratory Methods and Techniques						
BITC 1370 Introduction to Biochemistry						
BIOL 1406 General Biology I						
<b>THIRD SEMESTER</b>						
BITC 1491 Special Topics in Biological Technology/ Technician						
BITC 2411 Biotechnology Laboratory Instrumentation						

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<b>COLLEGE:</b>	<b>COUNSELOR/ADVISOR:</b>	<b>CATALOG YEAR: 13-14</b>

**CHEMICAL ENGINEERING TECHNOLOGY- ASSOCIATE IN APPLIED SCIENCE**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enroll				<i>This award is deactivated as of September 1, 2013.</i>		
<b>FIRST YEAR</b>				<i>New students will not be admitted into the program.</i>		
<b>FIRST SEMESTER</b>				<i>The program is currently in teach-out status.</i>		
ENGR 1201 Introduction to Engineering						
CTEC 1391 Special Topics in Chemical Technology/Technician						
PTAC 1308 Safety, Health, and Environment I						
ENGL 1301 Composition I						
MATH 1314 College Algebra						
<b>SECOND SEMESTER</b>						
SCIT 1414 Applied General Chemistry I <u>OR</u>						
CHEM 1411 General Chemistry						
SCIT 1418 Applied Physics I <u>OR</u>						
PHYS 1401 College Physics I						
MATH 1325 Elements of Calculus with Applications						
PTAC 1332 Process Instrumentation I						
<b>THIRD SEMESTER</b>						
CTEC 1470 Principles of Pipeline Technology						
SCIT 2401 Applied Organic Chemistry I <u>OR</u>						
CHEM 2423 Organic Chemistry I						
PTAC 1410 Process Technology I- Equipment						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
SCIT 1543 Applied Analytical Chemistry						
SOCI 1301 Introduction to Sociology						
CTEC 2470 Process Control and Design						
PTAC 2420 Process Technology II- Systems						
<b>SECOND SEMESTER</b>						
CTEC 2386 Internship- Chemical Technology/Tech. <u>OR</u>						
CTEC 1391 Special Topics in Chemical Technology/Technician						
PTAC 2446 Process Troubleshooting						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
CTEC 2445 Unit Operations						

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

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**CHEMICAL LABORATORY TECHNOLOGY- ASSOCIATE IN APPLIED SCIENCE**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.				<i>This award is deactivated as of September 1, 2013.</i>		
				<i>New students will not be admitted into the program.</i>		
<b>FIRST YEAR</b>				<i>The program is currently in teach-out status.</i>		
<b>FIRST SEMESTER</b>						
ENGR 1201 Introduction to Engineering						
CTEC 1213 Introduction to Chemical Technology						
ENGL 1301 Composition I						
MATH 1314 College Algebra						
XXXX #3## Department Approved Elective						
PSYC 2301 Introduction to Psychology						
<b>SECOND SEMESTER</b>						
SCIT 1414 Applied General Chemistry I <b><u>OR</u></b>						
CHEM 1411 General Chemistry I						
BIOL 1406 General Biology I OR						
PHYS 1401 College Physics						
MATH 1342 Statistics						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
<b>THIRD SEMESTER</b>						
SCIT 1543 Applied Analytical Chemistry						
SCIT 1415 Applied General Chemistry II <b><u>OR</u></b>						
CHEM 1412 General Chemistry II						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
CTEC 1441 Applied Instrumental Analysis I						
SCIT 2401 Applied Organic Chemistry I <b><u>OR</u></b>						
CHEM 2423 Organic Chemistry I						
XXXX #4## Department Approved Program-Related Elective*						
<b>(Continued on page 2)</b>						

\*Electives: PTAC 2314, PTAC 2334; GEOL 1403, GEOL 1404; CTEC 2441, CTEC 1349, CTEC 1345, CTEC 2443, CTEC 2445, CTEC 1401, EPTC 1427, EPTC 2414 or other department approved elective.









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**DRAFTING AND DESIGN ENGINEERING TECHNOLOGY - AAS - GENERAL DRAFTING**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
ENGL 1301 Composition I						
DFTG 1405 Technical Drafting						
DFTG 1309 Basic Computer-Aided Drafting						
MATH 1314 College Algebra						
<b>SECOND SEMESTER</b>						
DFTG 2319 Intermediate Computer-Aided Drafting						
DFTG 1358 Electrical/ Electronics Drafting <b><u>OR</u></b>						
DFTG 1329 Electro-Mechanical Drafting						
ENGL 2311 Technical and Industrial Correspondence and Report Writing <b><u>OR</u></b>						
ENGL 1302 Composition II						
DFTG 1333 Mechanical Drafting						
XXXX #3## Social/Behavioral Science Gen. Ed Elective						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
DFTG 2302 Machine Drafting						
DFTG 2323 Pipe Drafting						
DFTG 1310 Specialized Basic Computer Aided Drafting (CAD)						
DFTG 2317 Descriptive Geometry						
MATH 1316 Plane Trigonometry						
<b>SECOND SEMESTER</b>						
DFTG 2330 Civil Drafting						
ARCE 1352 Structural Drafting						
DFTG 1317 Architectural Drafting- Residential						
DFTG 2335 Advanced Technologies in Mechanical Design and Drafting <b><u>OR</u></b>						
DFTG #3## Drafting Elective						
XXXX #3## Humanities/Fine Arts General Ed. Elective						



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**DRAFTING AND DESIGN ENGINEERING TECHNOLOGY - AAS - ARCHITECTURAL DRAFTING SPECIALIZATION**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enroll.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
ENGL 1301 Composition I						
DFTG 1405 Technical Drafting						
DFTG 1309 Basic Computer-Aided Drafting						
MATH 1314 College Algebra						
<b>SECOND SEMESTER</b>						
DFTG 2319 Intermediate Computer-Aided Drafting						
DFTG 1317 Architectural Drafting-Residential						
XXXX #3## Social/Behavioral Science Gen. Ed Elective						
MATH 1316 Plane Trigonometry						
ARCE 1352 Structural Drafting						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
DFTG 2300 Intermediate Architectural Drafting-Residential						
ENGL 2311 Technical and Industrial Correspondence and Report Writing <b><u>OR</u></b>						
ENGL 1302 Composition II						
DFTG 1392 Special Topics in Architectural Drafting and Architectural CAD/CADD						
DFTG 1376 Revit Residential						
<b>SECOND SEMESTER</b>						
DFTG 2331 Advanced Technologies in Architectural Design and Drafting						
ARCE 2352 Mechanical and Electrical Systems						
DFTG 2330 Civil Drafting						
DFTG 2328 Architectural Drafting- Commercial Residential						
DFTG #3## Drafting Elective						



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**DRAFTING AND DESIGN ENGINEERING TECHNOLOGY - AAS - CIVIL DESIGN DRAFTING SPECIALIZATION**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
ENGL 1301 Composition I						
DFTG 1405 Technical Drafting						
DFTG 1309 Basic Computer-Aided Drafting						
MATH 1314 College Algebra						
<b>SECOND SEMESTER</b>						
DFTG 2319 Intermediate Computer-Aided Drafting						
SRVY 1301 Introduction to Surveying <u>OR</u>						
DFTG #3## Drafting Elective						
DFTG 2317 Descriptive Geometry						
DFTG 2330 Civil Drafting						
XXXX #3## Social/Behavioral Science/Gen. Ed. Elective						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
SRVY 1341 Land Surveying						
DFTG 2321 Topographical Drafting						
DFTG 1310 Specialized Basic Computer Aided Drafting						
ENGL 2311 Technical and Industrial Correspondence and Report Writing <u>OR</u>						
ENGL 1302 Composition II						
ARCE 1352 Structural Drafting						
<b>SECOND SEMESTER</b>						
MATH 1316 Plane Trigonometry						
DFTG 2370 Intermediate CAD (Microstation)						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
SRVY 2348 Plane Surveying						
DFTG 1393 Special Topics in Civil Drafting and Civil Engineering CAD/CADD						



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<b>COLLEGE:</b>	<b>COUNSELOR/ADVISOR:</b>	<b>CATALOG YEAR: 13-14</b>

**DRAFTING AND DESIGN ENGINEERING TECHNOLOGY - AAS - ELECTRO-MECHANICAL DESIGN SPECIALIZATION**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enroll.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
ENGL 1301 Composition I						
DFTG 1405 Technical Drafting						
DFTG 1309 Basic Computer-Aided Drafting						
MATH 1314 College Algebra						
<b>SECOND SEMESTER</b>						
DFTG 1333 Mechanical Drafting						
DFTG 2319 Intermediate Computer-Aided Drafting						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
DFTG 1329 Electro-mechanical Drafting						
MATH 1316 Plane Trigonometry						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
DFTG 1310 Specialized Basic Computer Aided Drafting (CAD)						
DFTG 2317 Descriptive Geometry						
DFTG 1358 Electrical/Electronics Drafting						
DFTG 2302 Machine Drafting						
XXXX #3## Social/Behavioral Science Gen. Ed Elective						
<b>SECOND SEMESTER</b>						
DFTG 2306 Machine Design						
DFTG 2335 Advanced Technologies in Mechanical Design and Drafting <b><u>OR</u></b>						
DFTG 2340 Solid Modeling/Design						
DFTG 2305 Printed Circuit Board Design <b><u>OR</u></b>						
DFTG #3## Drafting Elective						
ENGL 2311 Technical and Industrial Correspondence and Report Writing <b><u>OR</u></b>						
ENGL 1302 Composition II						
DFTG 2358 Advanced Machine Design						





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**DRAFTING AND DESIGN ENGINEERING TECHNOLOGY - AAS - PIPING DESIGN DRAFTING SPECIALIZATION**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
ENGL 1301 Composition I						
DFTG 1405 Technical Drafting						
DFTG 1309 Basic Computer-Aided Drafting						
MATH 1314 College Algebra						
<b>SECOND SEMESTER</b>						
DFTG 2319 Intermediate Computer-Aided Drafting						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
DFTG 2323 Pipe Drafting						
DFTG 1333 Mechanical Drafting						
DFTG 2317 Descriptive Geometry						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
DFTG 1310 Specialized Basic Computer Aided Drafting (CAD)						
DFTG 2308 Instrumentation Drafting						
DFTG 2330 Civil Drafting						
MATH 1316 Plane Trigonometry						
XXXX #3## Social/Behavioral Science General Ed. Elective						
<b>SECOND SEMESTER</b>						
ENGL 2311 Technical and Industrial Correspondence and Report Writing <b>OR</b>						
ENGL 1302 Composition II						
DFTG 2340 Solid Modeling Design <b>OR</b>						
XXXX #3## Elective						
DFTG 2345 Advanced Pipe Drafting						
DFTG 2373 Piping Design Management Systems (PDMS)						
ARCE 1352 Structural Drafting						













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<b>COLLEGE:</b>	<b>COUNSELOR/ADVISOR:</b>	<b>CATALOG YEAR: 13-14</b>

**ELECTRONICS ENGINEERING TECHNOLOGY - AAS - BIOMEDICAL ELECTRONICS SPECIALIZATION**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
MATH 1314 College Algebra						
CETT 1321 Electronic Fabrication						
CPMT 1449 Computer Networking Technology						
<b>SECOND SEMESTER</b>						
CETT 1403 DC Circuits						
CETT 1425 Digital Fundamentals						
MATH 1316 Plane Trigonometry						
XXXX #3## Social/Behavioral Science General Ed. Elective						
ENGL 2311 Technical and Industrial Correspondence and Report Writing						
<b>THIRD SEMESTER</b>						
PHYS 1401 College Physics I						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
CETT 1405 AC Circuits						
CETT 1429 Solid State Devices						
BIOM 1309 Applied Biomedical Equipment Technology						
CETT 1331 Programming for Discrete Electronic Devices						
<b>SECOND SEMESTER</b>						
BIOM 2331 Biomedical Clinical Instrumentation						
MDCA 1313 Medical Terminology						
BIOM 2489 Internship - Biomedical Technology/Technician						
CETT 1457 Linear Integrated Circuits						



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<b>NAME:</b>	<b>SS#:</b>	<b>DATE:</b>
<b>COLLEGE:</b>	<b>COUNSELOR/ADVISOR:</b>	<b>CATALOG YEAR: 13-14</b>

**ELECTRONICS ENGINEERING TECHNOLOGY - AAS - ELECTRICAL POWER TECHNOLOGY SPECIALIZATION**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
EDUC 1300 <i>or</i> Learning Framework						
MATH 1314 College Algebra						
CETT 1321 Electronic Fabrication						
CPMT 1449 Computer Networking Technology						
<b>SECOND SEMESTER</b>						
CETT 1403 DC Circuits						
CETT 1425 Digital Fundamentals						
MATH 1316 Plane Trigonometry						
XXXX #3## Social/Behavioral Science General Ed. Elective						
ENGL 2311 Technical and Industrial Correspondence and Report Writing						
<b>THIRD SEMESTER</b>						
PHYS 1401 College Physics I						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
CETT 1405 AC Circuits						
CETT 1429 Solid State Devices						
CETT 1331 Programming for Discrete Electronic Devices						
RBTC 1301 Programmable Logic Controllers						
<b>SECOND SEMESTER</b>						
XXXX #4## Program - Related Elective						
ELPT 1451 Electrical Machines						
CETT 1457 Linear Integrated Circuits						

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**ELECTRONICS ENGINEERING TECHNOLOGY - AAS - COMPUTER ENGINEERING TECHNOLOGY SPECIALIZATION**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
ENGL 1301 Composition I						
MATH 1314 College Algebra						
CETT 1321 Electronic Fabrication						
CPMT 1449 Computer Networking Technology						
<b>SECOND SEMESTER</b>						
CETT 1403 DC Circuits						
CETT 1425 Digital Fundamentals						
MATH 1316 Plane Trigonometry						
XXXX #3## Social/Behavioral Science General Ed. Elective						
ENGL 2311 Technical and Industrial Correspondence and Report Writing						
<b>THIRD SEMESTER</b>						
PHYS 1401 College Physics I						
XXXX #3## Program - Related Elective						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
CETT 1405 AC Circuits						
CETT 1429 Solid State Devices						
CETT 1331 Programming for Discrete Electronic Devices						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
<b>SECOND SEMESTER</b>						
CETT 1445 Microprocessor						
XXXX #4## Program - Related Elective						
CETT 1457 Linear Integrated Circuits**						

The \*\*capstone course is CETT 1457 - Linear Integrated Circuits





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**ELECTRONICS ENGINEERING TECHNOLOGY - CERTIFICATE - NETWORK SECURITY**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.						
<b>FIRST SEMESTER</b>						
ENGR 1201 Introduction to Engineering						
CPMT 1303 Introduction to Computer Technology						
CPMT 1411 Introduction to Computer Maintenance						
ITCC 1401 Exploration-Network Fundamentals						
<b>SECOND SEMESTER</b>						
ITSY 1300 Fundamentals of Information Security						
ITNW 1351 Fundamentals of Wireless LANs						
CPMT 2449 Advanced Computer Networking Technology						
ITCC 1404 Cisco Expl. 2-Routing Protocols & Concepts						
<b>THIRD SEMESTER</b>						
XXXX #3## Department Approved Elective						
XXXX #3## Department Approved Elective						
CPMT 2434 Network Security						
<i>This certificate is deactivated as of September 1, 2011.</i>						
<i>No new students will be admitted into the program.</i>						

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

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

<b>NAME:</b>	<b>SS#:</b>	<b>DATE:</b>
<b>COLLEGE:</b>	<b>COUNSELOR/ADVISOR:</b>	<b>CATALOG YEAR: 13-14</b>

**ENGINEERING TECHNOLOGY - SUSTAINABLE AND RENEWABLE ENERGY - AAS**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enroll.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
CPMT 1303 Introduction to Computer Technology						
PTAC 1302 Introduction to Process Technology						
<b>SECOND SEMESTER</b>						
PTRT 1301 Introduction to Petroleum Industry						
SOLR 1370 Principles of Solar Photovoltaic						
WIND 1300 Introduction to Wind Energy						
CPMT 1449 Computer Networking Technology						
<b>THIRD SEMESTER</b>						
PTRT 1470 Petroleum Data Management I - Exploration						
PTRT 1370 Petroleum Geology						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
PTAC 1308 Safety, Health, and Environment I						
PTAC 1354 Industrial Processes						
ENGL 1301 Composition I						
SCIT 1414 Applied General Chemistry I <b><i>OR</i></b>						
CHEM 1411 General Chemistry I						
<b>SECOND SEMESTER</b>						
PTRT 1471 Exploration and Production I						
XXXX #3## Social/Behavioral Science/General Education Elective						
PTAC 1350 Industrial Economics						
PHYS 1401 College Physics I <b><i>OR</i></b>						
SCIT 1418 Applied Physics						
<b>THIRD SEMESTER</b>						
MATH 1314 College Algebra <b><i>OR</i></b>						
TECM 1301 Industrial Mathematics						
XXXX #3## Arts/Humanities/General Education Elective						



**HOUSTON COMMUNITY COLLEGE SYSTEM  
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<b>NAME:</b>	<b>SS#:</b>	<b>DATE:</b>
<b>COLLEGE:</b>	<b>COUNSELOR/ADVISOR:</b>	<b>CATALOG YEAR: 13-14</b>

**INSTRUMENTATION AND CONTROLS ENGINEERING TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enroll.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
INTC 1312 Instrumentation and Safety						
PTAC 1308 Safety, Health, and Environment I						
CETT 1403 DC Circuits						
MATH 1314 College Algebra						
<b>SECOND SEMESTER</b>						
INTC 1456 Instrumentation Calibration						
SPCH #3## Speech Elective						
MATH 1316 Trigonometry						
INTC 1441 Principles of Automatic Control						
CPMT 1449 Computer Networking Technology <b>OR</b>						
ITNW 1425 Fundamentals of Networking Technologies <b>OR</b>						
ITCC 1401 Cisco Exploration I - Networking Fundamentals						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
INTC 1343 Application of Industrial Automatic Controls						
INTC 2330 Instrumentation Systems Troubleshooting						
XXXX #3## Program Related Elective						
PHYS 1401 College Physics						
<b>SECOND SEMESTER</b>						
XXXX #3## Humanities/Fine Arts General Ed. Elective						
XXXX #3## Social/Behavioral Science General Ed. Elective						
RBTC 1301 Programmable Logic Controllers						
INTC 2370 Linking Process Control Systems						
INTC 2336 Distributed Control & Programmable Logic <b>OR</b>						
INTC 2380 Cooperative Education-Instrumentation Technology/Technician						

The capstone course is INTC 2336, Distributed Control and Programmable Logic or INTC 2380, Cooperative Education - Instrumentation Technology/Technician











**HOUSTON COMMUNITY COLLEGE SYSTEM  
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<b>NAME:</b>	<b>SS#:</b>	<b>DATE:</b>
<b>COLLEGE:</b>	<b>COUNSELOR/ADVISOR:</b>	<b>CATALOG YEAR: 13-14</b>

**PETROLEUM ENGINEERING TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
PTRT 1301 Introduction to Petroleum Industry						
MATH 1314 College Algebra						
XXXX #3## General Education Elective						
CPMT 1303 Introduction to Computer Technology						
PTAC 1308 Safety, Health, and Environment I						
<b>SECOND SEMESTER</b>						
PTRT 1470 Petroleum Data Management I- Exploration						
PTRT 1370 Petroleum Geology						
<b>THIRD SEMESTER</b>						
PTRT 1472 Petroleum Data Management II- Drilling and Production						
PTRT 2373 Principles of Enhanced Oil and Gas Recovery and Hydraulic Fracturing						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
PTRT 1473 Exploration and Production II						
MATH 1325 Elements of Calculus with Applications						
PTRT 2370 Petroleum Operations						
XXXX #3## Approved Humanities/ Fine Arts General Ed. Elective						
XXXX #3## General Education Elective						
<b>(Continued on Page 2)</b>						









**HOUSTON COMMUNITY COLLEGE SYSTEM  
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<b>COLLEGE:</b>	<b>COUNSELOR/ADVISOR:</b>	<b>CATALOG YEAR: 13-14</b>

**PROCESS TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE**

HCCS Course Requirement	Transfer / Substitution Institution	Substitution Course	Substitute (SU) Transfer (TR)	Comment/Disapproval	Approval Signature	Date
TSI testing is required prior to first enrollment.						
<b>FIRST YEAR</b>						
<b>FIRST SEMESTER</b>						
LEAD 1200 Workforce Development with Critical Thinking						
PTAC 1302 Introduction to Process Technology						
ENGL 1301 Composition I						
MATH 1314 College Algebra						
PTAC 1308 Safety, Health and Environment I						
XXXX #3## Social/Behavioral Science/General Education Elective						
<b>SECOND SEMESTER</b>						
SCIT 1418 Applied Physics <b><u>OR</u></b>						
PHYS 1401 College Physics						
SCIT 1414 Applied General Chemistry I <b><u>OR</u></b>						
CHEM 1411 General Chemistry I						
PTAC 1410 Process Technology I - Equipment						
PTAC 1332 Process Instrumentation I						
<b>SECOND YEAR</b>						
<b>FIRST SEMESTER</b>						
SPCH 1311 Introduction to Speech Communication						
PTAC 2314 Principles of Quality						
PTAC 2420 Process Technology II - Systems						
PTAC 1354 Industrial Processes						
CPMT 1303 Introduction to Computer Technology						
<b>SECOND SEMESTER</b>						
PTAC 2438 Operations - PT III						
PTAC 1350 Industrial Economics						
XXXX #3## Approved Humanities/Fine Arts General Ed. Elective						
PTAC 2446 Process Troubleshooting						

