CYPRESS COLLEGE
CURRICULUM COMMITTEE

Tuesday, February 6, 2024
Cypress College Complex (CCCPLX) 406
AGENDA

Your attendance is critical in helping to meet the curriculum needs of Cypress College. Remember, if you are unable to attend please find an alternate representative.

Call to Order: **Joyce Peacock, Chair**

1. **Establish Quorum and Acknowledge Alternates**
2. **Adoption of the Agenda**
3. **Approval of December 5, 2023 *minutes*: (attached)**
4. **Public Commentary (3 minutes per speaker)**
5. **Curriculum Specialist Report: Marbelly Jairam**
6. **Articulation Officer Report: Jacky Rangel**
7. **Division Reports: All division reps**
8. **CPL Coordinator Report: Jolena Grande**
9. **Administration Report**
10. **Working Group designation for Associate Degree GE**
11. **Reading Proficiency requirement language in the catalog**
12. **Chair Report**
13. **Approval of curriculum**
14. **Other-any additional concerns committee members might want to bring up for items that do not require vote**

Info Items:
ESL 054 C-Corrected SAM Code to Non-Occupational from Possibly Occupational, effective Fall 2024, Board approved 11/14/2023.
ESL 064 C- Corrected SAM Code to Non-Occupational from Possibly Occupational, effective Fall 2024, Board approved 11/14/2023.

DEACTIVATE COURSES		
COURSE ID	**EFF DATE**	**JUSTIFICATION**
MUS 298DC Electronic Music I	2024 Fall	No longer in need.
MUS 298FC Brass Seminar	2024 Fall	No longer in need.

NEW COURSES					
COURSE ID	**ACTION TAKEN**	**CLASS SIZE**	**CLASS SIZE JUSTIFICATION**	**EFF DATE**	**JUSTIFICATION**
AC/R 141 C Plumbing Fixtures Units: 3	*New Course *Distance Education: Partially Online *Prerequisites" AC/R 140 C	20	Most of the time the students are engaged in practicing the skill(s) they are learning and the instructor gives each	2024 Fall	Approved by Advisory Council. Course enhances program to include employment with commercial mechanical contractors whose scope of

Lecture: 1.5 Laboratory: 4.5	*Advisory: None *FSA: R30 (Plumbing) *CSU Transfer		student individual instruction as the class proceeds. One (1) proctor can test up to 35 candidates at one time; if testing more than 35 candidates, a second proctor is required. From the RSES Proctor Manual, Revised February 2019. (Attached in files)		work include plumbing piping and all aspects of the plumbing trade.
AC/R 142 C Plumbing System Repairs Units: 2 Lecture: 1.5 Laboratory: 1.5	*New Course *Distance Education: Partially Online *Prerequisites: AC/R140 C *Advisory: None *FSA: R30 (Plumbing) *CSU Transfer	20	Most of the time the students are engaged in practicing the skill(s) they are learning and the instructor gives each student individual instruction as the class proceeds. One (1) proctor can test up to 35 candidates at one time; if testing more than 35 candidates, a second proctor is required. From the RSES Proctor Manual, Revised February 2019. (Attached in files)	2024 Fall	Approved by Advisory Council. Course enhances program to include employment with commercial mechanical contractors whose scope of work include plumbing piping and all aspects of the plumbing trade.
AC/R 143 C Plumbing Irrigation Units: 2 Lecture: 1.5 Laboratory: 1.5	*New Course *Distance Education: Partially *Prerequisites: AC/R140 C and AC/R 105 C Advisory: None FSA: R30 (Plumbing) *CSU Transfer	20	Most of the time the students are engaged in practicing the skill(s) they are learning and the instructor gives each student individual instruction as the class proceeds. One (1) proctor can test up to 35 candidates at one time; if testing more than 35 candidates, a second proctor is required. From the RSES Proctor Manual, Revised February 2019. (Attached in files)	2024 Fall	Approved by Advisory Council. Course enhances program to include employment with commercial mechanical contractors whose scope of work include plumbing piping and all aspects of the plumbing trade.

REVISED COURSES					
COURSE ID	**ACTION TAKEN**	**CLASS SIZE**	**CLASS SIZE JUSTIFICATION**	**EFF DATE**	**JUSTIFICATION**
AC/R 036 C Refrigerant Certification Training Units: 1 Lecture: 1 Laboratory: 0	*Outline Update *Class size from 45 to 35 *Removed Distance Education: Fully Online *Prerequisite revalidated	35	While the instructor does lecture, much of the class time focuses on discussion, group learning, and/or formal/informal student presentations. Evaluation primarily through objective	2024 Fall	The handling of all refrigerants fall under the jurisdiction of the Environmental Protection Agency (EPA). Course must be updated to comply with the changes of the EPA Section 608 Certification

	*Catalog/Schedule Description Update *Student Learning Outcomes Update *Textbooks Update		exams. Writing assignments are assessed mostly for concepts and structure. One (1) proctor can test up to 35 candidates at one time; if testing more than 35 candidates, a second proctor is required. From the RSES Proctor Manual, Revised February 2019. (Attached in files)		Law and the September 2021 EPA ruling and adoption concerning the phase-out and mandatory changes in industry refrigerants and technician certification. Course revision includes a revision for on-campus proctored certification exam for Section 608 EPA Certification, Certification Testing for A2L Refrigerants and Certification Testing for Hydrocarbon Refrigerants. Test can only be administered by a Certified Cypress College instructor by HVAC Excellence or RSES (Refrigeration Service Engineers Society). Outline, class size, distance education, prerequisites revalidated, catalog/schedule description, SLOs, and textbook updated to better reflect course content.
AC/R 100 C Principles of Thermodynamics and Heat Transfer Units: 3 Lecture: 1.5 Laboratory: 4.5	*Outline Update *Advisory revalidated *Textbook Update	20	HVAC EXCELLENCE Standard 5.2 – Students per Instructor: The number of students per instructor shall be reasonable and allow for individual instruction. Classes should consist of no more that a maximum of 20 students per instructor. Open enrollment programs comprised of 15 or more students at multiple levels should be two instructor programs. The Air Conditioning & Refrigeration Department is aligning itself to this standard. This standard is not only for the quality of education allowing for more individual instruction, but also takes into account safety and health reasons as this industry is involved with the handling of hazardous materials such as refrigerants, oxygen and acetylene and oils. Also, the handling of electrical circuits at higher voltages	2024 Fall	Outline, advisory revalidated, and textbook updated to better reflect course content.

			demands more care. See the attached justification.		
AC/R 105 C Electricity for Air Conditioning and Refrigeration I Units: 3 Lecture: 1.5 Laboratory: 4.5	*Outline Update *Textbook Update	20	HVAC EXCELLENCE Standard 5.2 – Students per Instructor: The number of students per instructor shall be reasonable and allow for individual instruction. Classes should consist of no more that a maximum of 20 students per instructor. Open enrollment programs comprised of 15 or more students at multiple levels should be two instructor programs. The Air Conditioning & Refrigeration Department is aligning itself to this standard. This standard is not only for the quality of education allowing for more individual instruction, but also takes into account safety and health reasons as this industry is involved with the handling of hazardous materials such as refrigerants, oxygen and acetylene and oils. Also, the handling of electrical circuits at higher voltages demands more care. See the attached justification.	2024 Fall	Outline and textbook updated to better reflect course content.
AC/R 106 C Electricity for Air Conditioning and Refrigeration II Units: 3 Lecture: 1.5 Laboratory: 4.5	*Outline Update *Prerequisite revalidated *Textbook Update	20	HVAC EXCELLENCE Standard 5.2 – Students per Instructor: The number of students per instructor shall be reasonable and allow for individual instruction. Classes should consist of no more that a maximum of 20 students per instructor. Open enrollment programs comprised of 15 or more students at multiple levels should be two instructor programs. The Air Conditioning & Refrigeration Department is aligning itself to this standard. This standard is not only for the quality of education allowing for more individual instruction,	2024 Fall	Outline, prerequisite revalidated, and textbook updated to better reflect course content.

			but also takes into account safety and health reasons as this industry is involved with the handling of hazardous materials such as refrigerants, oxygen and acetylene and oils. Also, the handling of electrical circuits at higher voltages demands more care. See the attached justification.		
AC/R 110 C Air Flow Design & Psychrometrics Units: 2 Lecture: 1.5 Laboratory: 1.5	*Outline Update *Title Update from Air Conditioning I to Air Flow Design & Psychrometrics *Textbook Update	20	HVAC EXCELLENCE Standard 5.2 – Students per Instructor: The number of students per instructor shall be reasonable and allow for individual instruction. Classes should consist of no more that a maximum of 20 students per instructor. Open enrollment programs comprised of 15 or more students at multiple levels should be two instructor programs. The Air Conditioning & Refrigeration Department is aligning itself to this standard. This standard is not only for the quality of education allowing for more individual instruction, but also takes into account safety and health reasons as this industry is involved with the handling of hazardous materials such as refrigerants, oxygen and acetylene and oils. Also, the handling of electrical circuits at higher voltages demands more care. See the attached justification.	2024 Fall	Outline, title, and textbook updated to better reflect course content.
AC/R 115 C Gas Heat Transfer Systems Units: 3 Lecture: 1.5 Laboratory: 4.5	*Outline Update *Textbook Update	20	HVAC EXCELLENCE Standard 5.2 – Students per Instructor: The number of students per instructor shall be reasonable and allow for individual instruction. Classes should consist of no more that a maximum of 20 students per instructor. Open enrollment programs comprised of 15 or more students at multiple levels	2024 Fall	Outline and textbook updated to better reflect course content.

			should be two instructor programs. The Air Conditioning & Refrigeration Department is aligning itself to this standard. This standard is not only for the quality of education allowing for more individual instruction, but also takes into account safety and health reasons as this industry is involved with the handling of hazardous materials such as refrigerants, oxygen and acetylene and oils. Also, the handling of electrical circuits at higher voltages demands more care. See the attached justification.		
AC/R 230 C Heat Pumps Units: 2 Lecture: 1.5 Laboratory: 1.5	*Outline Update *Prerequisites revalidated *Catalog/Schedule Description Update	20	HVAC EXCELLENCE Standard 5.2 – Students per Instructor: The number of students per instructor shall be reasonable and allow for individual instruction. Classes should consist of no more that a maximum of 20 students per instructor. Open enrollment programs comprised of 15 or more students at multiple levels should be two instructor programs. The Air Conditioning & Refrigeration Department is aligning itself to this standard. This standard is not only for the quality of education allowing for more individual instruction, but also takes into account safety and health reasons as this industry is involved with the handling of hazardous materials such as refrigerants, oxygen and acetylene and oils. Also, the handling of electrical circuits at higher voltages demands more care. See the attached justification.	2024 Fall	Update course content to include cold climate heat pumps and heat pump hot water heater. Update textbook. Outline, prerequisites revalidated, and catalog/schedule description updated to better reflect course content.
THEA 147 C Stage Makeup Units: 3	*Outline Update *Student Learning Outcomes Update	20	This class requires the students to apply makeup to their faces in a prescribed	2024 Fall	Outline and SLOs updated to better reflect course content.

Lecture: 2 Laboratory: 3			manner that will not result in injury to their skin or eyes. The proper use of adhesives for prosthetics must be taught carefully to prevent injury to the eyes, mouth, and prevent adverse skin reaction. The class size of 20 establishes the appropriate limit of students that can be safely supervised and taught by an instructor.		Per DE notes-needs to be review by committee

MODIFY DEGREES/CERTIFICATES

DEGREE		EFF DATE	JUSTIFICATION
Air Conditioning/Refrigeration	**Air Conditioning Customer Service Certificate** The Customer Service Certificate provides students with a career path for attaining the communication skills, practical knowledge, and technical training necessary for pursuing a career in customer service. Students completing this certificate will develop an advanced understanding of personal inter-relations of customer service. To earn this certificate, complete the required courses as listed with a grade of C or better. At least 50% of all major course work must be completed at Cypress College. This certificate requires a total of 18 units. **Required courses are listed in suggested sequence (18 units):** AC/R100 C — Principles of Thermodynamics and Heat Transfer — 3 AC/R110 C — Air Flow Design & Psychrometrics — 2 AC/R137 C — Blueprints and Dimension Analysis — 2 AC/R105 C — Electricity for Air Conditioning and Refrigeration I — 3 AC/R115 C — Gas Heat Transfer Systems — 3 AC/R135 C — Sustainability Design & Application — 2 AC/R245 C — Load Calculations for Heating and Cooling — 2 AC/R055 C — Technician Customer Relations — 1 Total Units — 18	2024 Fall	*PSLOs Update *Course title update: AC/R 110 C Total units remain the same.
Air Conditioning/Refrigeration	**Air Conditioning and Refrigeration Associate in Science Degree** This program is designed as the bridge between Engineering and Service Technology. It will provide students with technical skills to support engineering applications. Graduates of the program will be at the leading edge of the application of new engineering solutions to production in industry. To earn an Associate Degree students must complete: (1) all 40 units of Air Conditioning & Refrigeration course requirements for the Certificate in Air Conditioning & Refrigeration with a grade of C or better; (2) Cypress College Native General Education requirements; California State University General Education Breadth requirements (CSU GE Breadth) or IGETC General Education requirements, including the cultural diversity and reading requirements and any elective courses to complete a minimum of 60 units; and, (3)	2024 Fall	*Course title update: AC/R 110 C Total units remain the same.

<table>
<tr>
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<td>have a minimum GPA of 2.0. At least 50% of all major course work must be completed at Cypress College. Courses that fulfill requirements for an Associate Degree at Cypress College might not be the same as those required for completing the major at a transfer institution offering a Baccalaureate Degree. For information on specific university requirements, please consult with your counselor, or visit the Transfer Center. This degree requires a total of 40 units.

Required courses are listed in suggested sequence (40 units):
<table>
<tr><td></td><td></td><td>Units</td></tr>
<tr><td>AC/R100 C</td><td>Principles of Thermodynamics and Heat Transfer</td><td>3</td></tr>
<tr><td>AC/R110 C</td><td>Air Flow Design & Psychrometrics</td><td>2</td></tr>
<tr><td>AC/R120 C</td><td>Piping Practice, Tools and Safety</td><td>3</td></tr>
<tr><td>AC/R137 C</td><td>Blueprints and Dimension Analysis</td><td>2</td></tr>
<tr><td>AC/R036 C</td><td>Refrigerant Certification Training</td><td>1</td></tr>
<tr><td>AC/R055 C</td><td>Technician Customer Relations</td><td>1</td></tr>
<tr><td>AC/R105 C</td><td>Electricity for Air Conditioning and Refrigeration I</td><td>3</td></tr>
<tr><td>AC/R115 C</td><td>Gas Heat Transfer Systems</td><td>3</td></tr>
<tr><td>AC/R135 C</td><td>Sustainability Design & Application</td><td>2</td></tr>
<tr><td>AC/R106 C</td><td>Electricity for Air Conditioning and Refrigeration II</td><td>3</td></tr>
<tr><td>AC/R210 C</td><td>Commercial Refrigeration</td><td>3</td></tr>
<tr><td>AC/R220 C</td><td>Introduction to Air Conditioning Controls</td><td>2</td></tr>
<tr><td>AC/R230 C</td><td>Heat Pumps</td><td>2</td></tr>
<tr><td>AC/R205 C</td><td>Commercial Air Conditioning</td><td>3</td></tr>
<tr><td>AC/R215 C</td><td>Codes and Commissioning</td><td>3</td></tr>
<tr><td>AC/R245 C</td><td>Load Calculations for Heating and Cooling</td><td>2</td></tr>
<tr><td>AC/R235 C</td><td>Air Conditioning Capstone</td><td>2</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="2">Total Units</td><td>40</td></tr>
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<td></td>
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<tr>
<td>Air Conditioning/Refrigeration</td>
<td>Air Conditioning and Refrigeration Certificate
Primary emphasis of this program is to prepare the student with job entry-level skills. Although further training must be done on the job, the student will have a strong background in fundamental skills of refrigeration, electricity, mathematics, communication skills, and drafting. At least 50% of all major course work must be completed at Cypress College. This certificate requires a total of 40 units.

Required courses are listed in suggested sequence (40 units):
<table>
<tr><td></td><td></td><td>Units</td></tr>
<tr><td>AC/R100 C</td><td>Principles of Thermodynamics and Heat Transfer</td><td>3</td></tr>
<tr><td>AC/R110 C</td><td>Air Flow Design & Psychrometrics</td><td>2</td></tr>
<tr><td>AC/R120 C</td><td>Piping Practice,Tools and Safety</td><td>3</td></tr>
<tr><td>AC/R137 C</td><td>Blueprints and Dimension Analysis</td><td>2</td></tr>
<tr><td>AC/R036 C</td><td>Refrigerant Certification Training</td><td>1</td></tr>
<tr><td>AC/R055 C</td><td>Technician Customer Relations</td><td>1</td></tr>
<tr><td>AC/R105 C</td><td>Electricity for Air Conditioning and Refrigeration I</td><td>3</td></tr>
<tr><td>AC/R115 C</td><td>Gas Heat Transfer Systems</td><td>3</td></tr>
<tr><td>AC/R135 C</td><td>Sustainability Design & Application</td><td>2</td></tr>
<tr><td>AC/R106 C</td><td>Electricity for Air Conditioning and Refrigeration II</td><td>3</td></tr>
<tr><td>AC/R210 C</td><td>Commercial Refrigeration</td><td>3</td></tr>
<tr><td>AC/R220 C</td><td>Introduction to Air Conditioning Controls</td><td>2</td></tr>
<tr><td>AC/R230 C</td><td>Heat Pumps</td><td>2</td></tr>
<tr><td>AC/R205 C</td><td>Commercial Air Conditioning</td><td>3</td></tr>
<tr><td>AC/R215 C</td><td>Codes and Commissioning</td><td>3</td></tr>
</table>
</td>
<td>2024 Fall</td>
<td>*PSLOs Update
*Course title update: AC/R 110 C
Total units remain the same.</td>
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<table>
<tr><td>AC/R245 C</td><td>Load Calculations for Heating and Cooling</td><td>2</td></tr>
<tr><td>AC/R235 C</td><td>Air Conditioning Capstone</td><td>2</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="2">Total Units</td><td>40</td></tr>
</table>
</td><td></td><td></td></tr>
<tr><td>Air Conditioning/Refrigeration</td><td>Air Conditioning and Refrigeration Project Management Certificate
Minor decisions can have a major impact to the success of a HVAC/R project. The Air Conditioning & Refrigeration Project Management examines industry specific technical management skills for quality project control. To earn this certificate, complete the required courses as listed with a grade of C or better. At least 50% of all major course work must be completed at Cypress College. This certificate requires a total of 17 units.

Required Courses (17 units):
<table>
<tr><td></td><td></td><td>Units</td></tr>
<tr><td>AC/R100 C</td><td>Principles of Thermodynamics and Heat Transfer</td><td>3</td></tr>
<tr><td>AC/R110 C</td><td>Air Flow Design & Psychrometrics</td><td>2</td></tr>
<tr><td>AC/R120 C</td><td>Piping Practice, Tools and Safety</td><td>3</td></tr>
<tr><td>AC/R215 C</td><td>Codes and Commissioning</td><td>3</td></tr>
<tr><td>AC/R260 C</td><td>Crew Leadership-Field Supervisor</td><td>2</td></tr>
<tr><td>AC/R265 C</td><td>Project Management</td><td>3</td></tr>
<tr><td>AC/R055 C</td><td>Technician Customer Relations</td><td>1</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="2">Total Units</td><td>17</td></tr>
</table>
</td><td>2024 Fall</td><td>*PSLOs Update
*Course title update: AC/R 110 C
Total units remain the same.</td></tr>
<tr><td>Air Conditioning/Refrigeration</td><td>Automated Building Controls Certificate
The Certificate in Automated Building Controls provides students with a career path for attaining the communication skills, practical knowledge, and technical training necessary for pursuing a career in controls and energy management. This training also prepares students to install, service, operate, maintain, and troubleshoot building automation systems (BAS) in commercial buildings, controlling Heating, Ventilation, and Air Conditioning (HVAC) Systems, energy management systems, as well as lighting, life safety, and security systems. Students who complete this program can significantly impact building operation and energy consumption. To earn a Certificate, students must complete: (1) all major course requirements with a grade of C or better; (2) have a minimum GPA of 2.0. At least 50% of all major course work must be completed at Cypress College. This certificate requires a total of 41 units.

Required courses are listed in suggested sequence (41 units):
<table>
<tr><td></td><td></td><td>Units</td></tr>
<tr><td>AC/R100 C</td><td>Principles of Thermodynamics and Heat Transfer</td><td>3</td></tr>
<tr><td>AC/R105 C</td><td>Electricity for Air Conditioning and Refrigeration I</td><td>3</td></tr>
<tr><td>AC/R106 C</td><td>Electricity for Air Conditioning and Refrigeration II</td><td>3</td></tr>
<tr><td>AC/R205 C</td><td>Commercial Air Conditioning</td><td>3</td></tr>
<tr><td>AC/R220 C</td><td>Introduction to Air Conditioning Controls</td><td>2</td></tr>
<tr><td>AC/R272 C</td><td>Fundamentals of Direct Current Electricity</td><td>3</td></tr>
<tr><td>AC/R273 C</td><td>Introduction to Personal Computer Hardware and Software</td><td>2</td></tr>
<tr><td>AC/R137 C</td><td>Blueprints and Dimension Analysis</td><td>2</td></tr>
<tr><td>AC/R276 C</td><td>Automation Hardware</td><td>2</td></tr>
<tr><td>AC/R277 C</td><td>Control Logic Programming</td><td>3</td></tr>
<tr><td>AC/R215 C</td><td>Codes and Commissioning</td><td>3</td></tr>
</table>
</td><td>2024 Fall</td><td>To realign this certificate to match to the Automated Building Controls Associate of Science Degree.

*Program title update from HVAC Automated Environmental Controls Certificate
*Catalog Description Update
*PLSOs Update
*Removed: AC/R 110 C, 115 C,135 C
*Add: AC/R 272 C, 273 C,137 C, 276 C, 277C, 215 C, 275 C, 274 C, 278 C, 279 C 280 C
Total units from 21 to 41.</td></tr>
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<tr><td></td><td>
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<tr><td>AC/R275 C</td><td>System Networking</td><td>3</td></tr>
<tr><td>AC/R274 C</td><td>Instrumentation for Hydronic and Air Distribution</td><td>2</td></tr>
<tr><td>AC/R278 C</td><td>Building Performance and Energy Auditing</td><td>3</td></tr>
<tr><td>AC/R279 C</td><td>Building Automation Control Systems</td><td>2</td></tr>
<tr><td>AC/R280 C</td><td>Automation Capstone Project</td><td>2</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="2">Total Units</td><td>41</td></tr>
</table>
</td><td></td><td></td></tr>
<tr><td>Air Conditioning/Refrigeration</td><td>
Commercial Air Conditioning Certificate
The Commercial Air Conditioning Certificate provides students with a career path for attaining the communication skills, practical knowledge, and technical training necessary for pursuing a career in commercial building air conditioning. Students completing this certificate will develop an advanced understanding of commercial building air conditioning. To earn this certificate, complete the required courses as listed with a grade of C or better. At least 50% of all major course work must be completed at Cypress College. This certificate requires a total of 20 units.

Required courses are listed in suggested sequence (20 units):
<table>
<tr><td></td><td></td><td>Units</td></tr>
<tr><td>AC/R100 C</td><td>Principles of Thermodynamics and Heat Transfer</td><td>3</td></tr>
<tr><td>AC/R110 C</td><td>Air Flow Design & Psychrometrics</td><td>2</td></tr>
<tr><td>AC/R120 C</td><td>Piping Practice, Tools and Safety</td><td>3</td></tr>
<tr><td>AC/R105 C</td><td>Electricity for Air Conditioning and Refrigeration I</td><td>3</td></tr>
<tr><td>AC/R115 C</td><td>Gas Heat Transfer Systems</td><td>3</td></tr>
<tr><td>AC/R106 C</td><td>Electricity for Air Conditioning and Refrigeration II</td><td>3</td></tr>
<tr><td>AC/R205 C</td><td>Commercial Air Conditioning</td><td>3</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="2">Total Units</td><td>20</td></tr>
</table>
</td><td>2024 Fall</td><td>*PSLOs Update
*Course title update: AC/R 110 C
Total units remain the same.</td></tr>
<tr><td>Air Conditioning/Refrigeration</td><td>
HVAC Building Commissioning Certificate

The Air Conditioning Building Codes and Commissioning Certificate provides students with a career path for attaining the communication skills, practical knowledge, and technical training necessary for pursuing a career in building commissioning certification. Students completing this certificate will develop an advanced understanding of the building commissioning process. To earn this certificate, complete the required courses as listed with a grade of C or better. At least 50% of all major course work must be completed at Cypress College. This certificate requires a total of 20 units.

Required courses are listed in suggested sequence (20 units):
<table>
<tr><td></td><td></td><td>Units</td></tr>
<tr><td>AC/R100 C</td><td>Principles of Thermodynamics and Heat Transfer</td><td>3</td></tr>
<tr><td>AC/R110 C</td><td>Air Flow Design & Psychrometrics</td><td>2</td></tr>
<tr><td>AC/R120 C</td><td>Piping Practice,Tools and Safety</td><td>3</td></tr>
<tr><td>AC/R115 C</td><td>Gas Heat Transfer Systems</td><td>3</td></tr>
<tr><td>AC/R106 C</td><td>Electricity for Air Conditioning and Refrigeration II</td><td>3</td></tr>
<tr><td>AC/R205 C</td><td>Commercial Air Conditioning</td><td>3</td></tr>
<tr><td>AC/R215 C</td><td>Codes and Commissioning</td><td>3</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="2">Total Units</td><td>20</td></tr>
</table>
</td><td>2024 Fall</td><td>*Catalog Description Update
*Add PSLOs
*Course title update: AC/R 110 C

Total units remain the same.</td></tr>
<tr><td>Air Conditioning/Refrigeration</td><td>HVAC Codes and Estimating Certificate</td><td>2024 Fall</td><td>*Catalog Description Update
*Add PSLOs</td></tr>
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<td>The Air Conditioning Estimating Certificate provides students with a career path for attaining the communication skills, practical knowledge, and technical training necessary for pursuing a career in application design and cost estimating. Students completing this certificate will develop an advanced understanding of application design and cost estimating. To earn this certificate, complete the required courses as listed with a grade of C or better. At least 50% of all major course work must be completed at Cypress College. This certificate requires a total of 19 units.

Required courses are listed in suggested sequence (19 units):
<table>
<tr><td></td><td></td><td>Units</td></tr>
<tr><td>AC/R100 C</td><td>Principles of Thermodynamics and Heat Transfer</td><td>3</td></tr>
<tr><td>AC/R110 C</td><td>Air Flow Design & Psychrometrics</td><td>2</td></tr>
<tr><td>AC/R137 C</td><td>Blueprints and Dimension Analysis</td><td>2</td></tr>
<tr><td>AC/R115 C</td><td>Gas Heat Transfer Systems</td><td>3</td></tr>
<tr><td>AC/R135 C</td><td>Sustainability Design & Application</td><td>2</td></tr>
<tr><td>AC/R215 C</td><td>Codes and Commissioning</td><td>3</td></tr>
<tr><td>AC/R245 C</td><td>Load Calculations for Heating and Cooling</td><td>2</td></tr>
<tr><td>AC/R235 C</td><td>Air Conditioning Capstone</td><td>2</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="2">Total Units</td><td>19</td></tr>
</table></td>
<td></td>
<td>*Course title update: AC/R 110 C
*Add: AC/R 235 C
Total units from 17 to 19.</td>
</tr>
<tr>
<td>Air Conditioning/Refrigeration</td>
<td>Heat Pump Certificate
The Heat Pump Certificate provides students with a career path for attaining the communication skills, practical knowledge, and technical training necessary for pursuing a career in Heat Pump Technical Servicing. Students completing this certificate will develop an advanced understanding of heat pump systems. To earn this certificate, complete the required courses as listed with a grade of C or better. At least 50% of all major course work must be completed at Cypress College. This certificate requires a total of 19 units.

Required courses are listed in suggested sequence (19 units):
<table>
<tr><td></td><td></td><td>Units</td></tr>
<tr><td>AC/R100 C</td><td>Principles of Thermodynamics and Heat Transfer</td><td>3</td></tr>
<tr><td>AC/R110 C</td><td>Air Flow Design & Psychrometrics</td><td>2</td></tr>
<tr><td>AC/R120 C</td><td>Piping Practice, Tools and Safety</td><td>3</td></tr>
<tr><td>AC/R036 C</td><td>Refrigerant Certification Training</td><td>1</td></tr>
<tr><td>AC/R105 C</td><td>Electricity for Air Conditioning and Refrigeration I</td><td>3</td></tr>
<tr><td>AC/R135 C</td><td>Sustainability Design & Application</td><td>2</td></tr>
<tr><td>AC/R106 C</td><td>Electricity for Air Conditioning and Refrigeration II</td><td>3</td></tr>
<tr><td>AC/R230 C</td><td>Heat Pumps</td><td>2</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="2">Total Units</td><td>19</td></tr>
</table></td>
<td>2024 Fall</td>
<td>*PSLOs Update
*Course title update: AC/R 110 C
Total units remain the same.</td>
</tr>
<tr>
<td>Health Science</td>
<td>Registered Nursing Associate in Science Degree
The program educates nursing students for patient/client services in a variety of health care settings. Clinical experience in hospitals and other health care agencies is correlated with classroom instruction. At the satisfactory completion of all courses and the specified general education requirements, the individual will receive an Associate in Science degree and will be eligible for the National Licensing Exam</td>
<td>2024 Fall</td>
<td>Formatting program requirements to match with Catalog.
*Catalog Update
*Total units from76-78 to 65</td>
</tr>
</table>

(NCLEX). This degree requires a total of 65 units in addition to other general education requirements.

PREREQUISITES

		Units
BIOL231 C	General Human Anatomy	4
BIOL241 C	General Human Physiology	4
BIOL220 C	Medical Microbiology	4
ENGL100 C	College Writing	4

Other Major Requirements

		Units
COMM100 C	Human Communication	3
PSY101 C	Introduction to Psychology	3
SOC101 C	Introduction to Sociology	3

SEMESTER I

		Units
NURS191 C	Pharmacology in Nursing I	1
NURS192 C	Fundamentals of Nursing	4.5
NURS193 C	Introduction to Medical-Surgical/Gero Nursing	3.5

SEMESTER II

		Units
NURS195 C	Pharmacology in Nursing II	1
NURS196 C	Medical-Surgical Nursing I	5
NURS197 C	Maternal/Newborn Nursing	3.5

SEMESTER III

		Units
NURS291 C	Pharmacology in Nursing III	1
NURS292 C	Medical-Surgical Nursing II	5
NURS293 C	Mental Health Nursing	3.5
NURS294 C	Geriatric Nursing	3

SEMESTER IV

		Units
NURS295 C	Pharmacology in Nursing IV	0.5
NURS296 C	Child/Family Nursing	3.5
NURS297 C	Medical-Surgical Nursing III	5

TRANSFER OF CREDIT

Transfer credit for nursing courses taken from another accredited institution may be granted provided the applicant meets the Cypress College Department of Nursing entrance requirements and space is available in the program. Contact the Health Science Counseling Office for written policy and procedure.

Credit will be granted on an individual basis after evaluation by the Department of Nursing. Transfer credit for equivalent general education courses required by the Department of Nursing will be granted if the course has been completed at an accredited college.

Any required course in the biological or social sciences listed below, completed over five years previous to the time the student applied to the program, must be repeated or the student may receive credit by challenge examination, or be evaluated on a individual basis.

BIOL 231 C General Human Anatomy
BIOL 241 C General Human Physiology
BIOL 220 C Medical Microbiology

Career Mobility Pathways

		Units
19.5 units may be awarded for holders of a valid California Vocational Nursing license. Credits are posted to transcripts upon completion of all other degree and graduation requirements. Students must provide a copy of their current California license with their degree application in order to be eligible for this credit. LVN license, students get credit for: NURS 191C, 192C. 193C, 195C, 196C, 197C, 291C		
14.5 units may be awarded for holders of a valid California Psychiatric Technician license. Credits are posted to transcripts upon completion of all other degree and graduation requirements. Students must provide a copy of their current California license with their degree application in order to be eligible for this credit. PT license, students get credit for: NURS 191C, 192C. 193C, 195C, 291C, 293C		
Total Units		65

DELETE DEGREES/CERTIFICATES

DEGREE		EFF DATE	JUSTIFICATION
Energy and Sustainable Technologies	**Solar Energy Certificate** Required courses are listed in suggested sequence (18 units):	2024 Fall	No student demand.

		Units
EST100 C	Renewable and Sustainable Energy	3
EST110 C	Climate Change & Global Responsibility	3
EST120 C	Energy Efficiency 1-Sustainable Building Science	3
EST130 C	Energy Efficiency 2-Sustainable Commercial Building Science	3
EST135 C	Solar Concentrators-Hot Water	3
AC/R105 C	Electricity for Air Conditioning and Refrigeration I	3
Total Units		18

Energy and Sustainable Technologies	**Sustainability Certificate** Required courses are listed in suggested sequence (17 units):	2024 Fall	No student demand.

		Units
EST100 C	Renewable and Sustainable Energy	3
EST110 C	Climate Change & Global Responsibility	3
EST120 C	Energy Efficiency 1-Sustainable Building Science	3
EST130 C	Energy Efficiency 2-Sustainable Commercial Building Science	3
AC/R137 C	Blueprints and Dimension Analysis	2
AC/R135 C	Sustainability Design & Application	2
AC/R055 C	Technician Customer Relations	1
Total Units		17