



**ASSOCIATE OF APPLIED SCIENCE**  
**INDUSTRIAL PROCESS OPERATION**  
**TECHNOLOGY**

**2021-22 Catalog**  
Effective Summer 2021

**4312**

*The catalog in force is assigned to students based on the academic year they first applied to the college, and changes only when students change their major or request the change in writing. Refer to Policy No. 3357:15-13-28.*

*Engineering Technologies Division*

*Oil and Gas Technology Department*

| <b>TECHNICAL<br/>Course Number</b>     | <b>Course Title</b>  | <b>Credits</b>          | <b>Pre- and Co-Requisites</b>                               | <b>Completed<br/>Sem./Year</b> |
|--|--|-------------------------|---|--------------------------------|
| EST230                                 | Electrical Circuits and Devices <sup>^</sup>   | 4                       | (MTH025 or Proficiency) or<br>MTH107                        |                                |
| MST221                                 | Mechanical Drive Components  | 3                       |   |                                |
| PET131                                 | Corrosion Basics   | 3                       |   |                                |
| PET132                                 | Petroleum Instrumentation  | 3                       |   |                                |
| ARL234                                 | Gas Compression and Flow Dynamics  | 3                       |   |                                |
| ARL239                                 | Large Line Unit Compressor Assembly  | 3                       |   |                                |
| EET227                                 | PLCs and Industrial Controls I   | 3                       | EET120 or EST230  |                                |
| EET228                                 | PLCs and Industrial Controls II  | 3                       | EET227  |                                |
| PET102                                 | Introduction to Supervisory Control and Data Acquisition (SCADA)   | 2                       |   |                                |
| MST134                                 | Hydraulic and Pneumatic Systems <sup>^</sup>   | 4                       | MTH022 or MTH023<br>or Proficiency                          |                                |
|  | <b>Total</b>   | <b>31</b>               |   |                                |
| <b>NON-TECH<br/>Course Number</b>      | <b>Course Title</b>  | <b>Credits</b>          | <b>Pre- and Co-Requisites</b>                               | <b>Completed<br/>Sem./Year</b> |
| SSC101                                 | Student Success Seminar <sup>^^</sup>  | 1                       | <i>Take first semester</i>                                  |                                |
| PET101                                 | Introduction to the Petroleum Industry   | 3                       |   |                                |
| ITD122                                 | Computer Applications for Professionals <sup>^</sup>   | 3                       | ITD100 or Proficiency                                       |                                |
| CHM101                                 | Introduction to Chemistry <sup>^▲</sup>  | 4                       | (MTH022 or MTH023 or<br>Proficiency) or MTH105 or<br>MTH107 |                                |
| MTH107<br>or<br>MTH125                 | Industrial Math <sup>^</sup><br>or<br>College Algebra <sup>^Ω</sup>  | 3<br>or<br>4            | <i>Check for prerequisites</i>                              |                                |
| ENG124                                 | College Composition <sup>^</sup>   | 3                       | Co-ENG024 or Co-ENG011 or<br>Proficiency                    |                                |
| ENV221                                 | OSHA 40-Hour HAZWOPER  | 2                       |   |                                |
| COM121<br>or<br>COM122<br>or<br>COM123 | Effective Speaking<br>or<br>Interpersonal Communication<br>or<br>Small Group Communication <sup>^</sup>                      | 3<br>or<br>3<br>or<br>3 | IDS102 or Proficiency                                       |                                |
| MST121<br>or<br>DET125                 | Blueprint Reading<br>or<br>Basic AutoCAD   | 2<br>or<br>3            |   |                                |
| MST125                                 | Basic Pumps  | 3                       |   |                                |
|  | <i>Select one (1) Social &amp; Behavioral Sciences or<br/>Arts &amp; Humanities Elective from the list below<sup>!</sup></i> | 3                       |   |                                |
|  | <b>Total</b>   | <b>30-32</b>            |   |                                |
|  | <b>TOTAL CREDIT HOURS</b>  | <b>61-63</b>            |   |                                |

See footnotes on next page.

## PART-TIME STUDENT ADVISING NOTES

Academic Advising

Students should make an appointment to see their advisor before registering for classes each semester. They should have prepared a completed registration form, including courses they wish to take, prior to this meeting.

Course Sequence

The semester-by-semester listing below provides the normal scheduling option for part-time associate degree students who plan to finish in eight semesters.

| <u>First Semester</u>   |  | <u>Credit Hours</u> | <u>Pre- and Co-requisites</u>                                       |
|-------------------------|--|---------------------|---|
| SSC101                  | Student Success Seminar^^  | 1                   |   |
| MTH107                  | Industrial Math^   | 3                   | <i>Take first semester</i>  |
| <b>or</b>               | <b>or</b>  | <b>or</b>           | <i>Check for prerequisites</i>                                      |
| MTH125                  | College Algebra^Ω  | 4                   |   |
| PET101                  | Introduction to the Petroleum Industry   | 3                   |   |
|                         |  | <b>7-8</b>          |   |
| <u>Second Semester</u>  |  |                     |   |
| PET102                  | Introduction to Supervisory Control and Data Acquisition (SCADA)   | 2                   |   |
| EST230                  | Electrical Circuits and Devices^   | 4                   | (MTH025 or Proficiency) <b>or</b> MTH107                            |
|                         |  | <b>6</b>            |   |
| <u>Third Semester</u>   |  |                     |   |
| EET227                  | PLCs and Industrial Controls I   | 3                   | EET120 <b>or</b> EST230   |
| ENG124                  | College Composition^   | 3                   | Co-ENG024 <b>or</b> Co-ENG011 <b>or</b> Proficiency                 |
|                         |  | <b>6</b>            |   |
| <u>Fourth Semester</u>  |  |                     |   |
| MST134                  | Hydraulic and Pneumatic Systems^   | 4                   | MTH022 <b>or</b> MTH023 <b>or</b> Proficiency                       |
| EET228                  | PLCs and Industrial Controls II  | 3                   | EET227  |
|                         |  | <b>7</b>            |   |
| <u>Fifth Semester</u>   |  |                     |   |
| PET131                  | Corrosion Basics   | 3                   |   |
| MST221                  | Mechanical Drive Components  | 3                   |   |
| ARL239                  | Large Line Unit Compressor Assembly  | 3                   |   |
|                         |  | <b>9</b>            |   |
| <u>Sixth Semester</u>   |  |                     |   |
| ARL234                  | Gas Compression and Flow Dynamics  | 3                   |   |
| CHM101                  | Introduction to Chemistry^▲  | 4                   | (MTH022 or MTH023 or Proficiency) <b>or</b> MTH105 <b>or</b> MTH107 |
| ENV221                  | OSHA 40-Hour HAZWOPER  | 2                   |   |
|                         |  | <b>9</b>            |   |
| <u>Seventh Semester</u> |  |                     |   |
| ITD122                  | Computer Applications for Professionals^   | 3                   | ITD100 <b>or</b> Proficiency  |
| MST125                  | Basic Pumps  | 3                   |   |
| PET132                  | Petroleum Instrumentation  | 3                   |   |
|                         |  | <b>9</b>            |   |
| <u>Eighth Semester</u>  |  |                     |   |
| COM121                  | Effective Speaking   | 3                   |   |
| <b>or</b>               | <b>or</b>  | <b>or</b>           |   |
| COM122                  | Interpersonal Communication  | 3                   |   |
| <b>or</b>               | <b>or</b>  | <b>or</b>           |   |
| COM123                  | Small Group Communication^   | 3                   | IDS102 <b>or</b> Proficiency  |
| MST121                  | Blueprint Reading  | 2                   |   |
| <b>or</b>               | <b>or</b>  | <b>or</b>           |   |
| DET125                  | Basic AutoCAD  | 3                   |   |
|                         | <i>Select one (1) Social &amp; Behavioral Sciences or Arts &amp; Humanities Elective from the list below<sup>1</sup></i> | 3                   | <i>Check for prerequisites</i>                                      |
|                         |  | <b>8-9</b>          |   |
|                         | <b>TOTAL CREDITS</b>   | <b>61-63</b>        |   |

<sup>^</sup>Based on SSC placement scores

<sup>^^</sup>To promote student success, this course should be taken in the first semester

<sup>▲</sup>Because of strong emphasis on science in this major, applicants must have successfully completed Chemistry and Biology in high school. Students who did not complete the courses in high school, and those who prefer to refresh their knowledge of the material, should complete the listed pre-requisites.

<sup>Ω</sup>MTH125 should only be taken by students planning to transfer to a four-year institution

<sup>1</sup>Social & Behavioral Sciences or Arts & Humanities electives: BUS122, BUS221, BUS222, ENG233, ENG234, ENG236, ENG237, HIS121, HIS122, HIS221, HIS222, PHL122 (recommended), PSC121, PSY121, PSY123, PSY124, PSY220, PSY221, SOC121, SOC122, SOC123, SOC221, SOC225