

# BACHELOR OF SCIENCE WITH A MAJOR IN PETROLEUM ENGINEERING (BS)

## Degree Requirements

A minimum of 129 semester credit hours (SCH): 45 hours must be advanced, and fulfillment of degree requirements as specified in the "Requirements for Graduation (<http://catalog.tamui.edu/undergraduate-information/academic-regulations/>)" section of this catalog.

| Code  | Title                          | Semester Credit Hours |
|---|--------------------------------|-----------------------|
| <b>[University Core Curriculum] (<a href="https://catalog.tamui.edu/appendix-a-core-curriculum-optional-course-information/">https://catalog.tamui.edu/appendix-a-core-curriculum-optional-course-information/</a>)</b> |                                |                       |
| Select 42 SCH as outlined in the suggested plans and as specified in the "Requirements for Graduation." MATH 2413 and PHYS 2325 must be taken as part of the core.  |                                | 42                    |
| <b>Major</b>  |                                |                       |
| <i>Engineering</i>  |                                |                       |
| CSCE 1136   | Funds of Programming Lab       | 1                     |
| CSCE 1336   | Fundamentals of Programming    | 3                     |
| ENGR 1201   | Foundations of Engineering I   | 2                     |
| ENGR 1304   | Computer-Aided Design          | 3                     |
| ENGR 2103   | Statics & Dynamics Lab         | 1                     |
| ENGR 2303   | Statics & Dynamics             | 3                     |
| ENGR 2105   | Principles of Elec Engr Lab    | 1                     |
| ENGR 2305   | Principles of Elec Engineering | 3                     |
| ENGR 2360   | Thermodynamics & Fluid Mech    | 3                     |
| ENGR 2372   | Engineering Statistics         | 3                     |
| ENGR 2390   | Mechanics of Materials         | 3                     |
| <i>Petroleum Engineering</i>  |                                |                       |
| ENGR 3300   | Engineering Economics          | 3                     |
| PETE 3101   | Drilling Engineering I Lab     | 1                     |
| PETE 3301   | Drilling Engineering I         | 3                     |
| PETE 3307   | Reservoir Engineering I        | 3                     |
| PETE 3110   | Petrophysics Lab               | 1                     |
| PETE 3310   | Petrophysics                   | 3                     |
| PETE 3111   | Well Log & Formation Eval Lab  | 1                     |
| PETE 3311   | Well Log & Formation Eval      | 3                     |
| PETE 3120   | Petroleum Production Eng I Lab | 1                     |
| PETE 3320   | Petroleum Production Eng I     | 3                     |
| PETE 3330   | Reservoir Fluids               | 3                     |
| PETE 4321   | Petroleum Production Eng. II   | 3                     |
| PETE 4370   | Well Testing                   | 3                     |
| PETE 4382   | Reserv Modeling & Simulation   | 3                     |
| PETE 4190   | Senior Design I                | 1                     |
| PETE 4290   | Senior Design II               | 2                     |
| <b>Math and Sciences</b>  |                                |                       |

|  |                                |            |
|--|--------------------------------|------------|
| GEOL 3420                              | Petroleum Geology              | 4          |
| PHYS 2125                              | University Physics I Lab       | 1          |
| PHYS 2126                              | University Physics II Lab      | 1          |
| PHYS 2326                              | University Physics II          | 3          |
| MATH 2414                              | Calculus II                    | 4          |
| MATH 2415                              | Calculus III                   | 4          |
| MATH 3330                              | Ordinary Diff Equations        | 3          |
| Select 1 SCH surplus from core         |                                | 1          |
| <b>Petroleum Engineering Electives</b> |                                |            |
| Select 3 SCH from the following:       |                                | 3          |
| PETE 3340                              | Geophysics for Petro Engineers |            |
| PETE 4302                              | Drilling Engineering II        |            |
| PETE 4312                              | Reservoir Engineering II       |            |
| PETE 4313                              | Integrated Reservoir Mngt      |            |
| PETE 4322                              | Artificial Lift                |            |
| PETE 4330                              | Petroleum Data Analytics & ML  |            |
| PETE 4332                              | Env Hlth & Saf in Oil Indus    |            |
| PETE 4152                              | Internship in PETE             |            |
| PETE 4252                              | Internship in PETE             |            |
| PETE 4352                              | Internship in PETE             |            |
| PETE 4355                              | Drilling Optimization          |            |
| PETE 4380                              | Shale Oil & Gas Engineering    |            |
| PETE 4185                              | Special Topics in PETE         |            |
| PETE 4285                              | Special Topics in PETE         |            |
| PETE 4385                              | Special Topics in PETE         |            |
| PETE 4195                              | Undergraduate Research in PETE |            |
| PETE 4295                              | Undergraduate Research in PETE |            |
| PETE 4395                              | Undergraduate Research in PETE |            |
| PETE 4199                              | Directed Study in PETE         |            |
| PETE 4299                              | Directed Study in PETE         |            |
| PETE 4399                              | Directed Study in PETE         |            |
| <b>Total Semester Credit Hours</b>     |                                | <b>129</b> |

## Four-Year Degree Plan

Following is a suggested four-year degree plan. Students are encouraged to see their advisor each semester for help with program decisions and enrollment; responsible for reviewing the **Program of Study Requirements**, meeting all course prerequisites, and **writing intensive course (WIN)** requirements for graduation. See Academic Regulations–Undergraduate online. (<https://catalog.tamui.edu/undergraduate-information/academic-regulations/>)

| <b>Freshman</b> |                              | <b>Semester Credit Hours</b> |
|-----------------|------------------------------|------------------------------|
| <b>Fall</b>     |                              |                              |
| CHEM 1111       | General Chemistry I-Lab      | 1                            |
| CHEM 1311       | General Chemistry I          | 3                            |
| ENGL 1301       | English Composition I        | 3                            |
| ENGR 1201       | Foundations of Engineering I | 2                            |
| HIST 1301       | The US to 1877               | 3                            |
| MATH 2413       | Calculus I                   | 4                            |

|                              |                          |           |
|------------------------------|--------------------------|-----------|
| UNIV 1201                    | Learn a Global Context I | 2         |
| <b>Semester Credit Hours</b> |                          | <b>18</b> |

**Spring**

|           |                             |   |
|-----------|-----------------------------|---|
| ENGL 2311 | Technical Communication-WIN | 3 |
| HIST 1302 | The US Since 1877           | 3 |
| PHYS 2125 | University Physics I Lab    | 1 |
| PHYS 2325 | University Physics I        | 3 |
| MATH 2414 | Calculus II                 | 4 |
| UNIV 1302 | Signature Course            | 3 |

|                              |  |           |
|------------------------------|--|-----------|
| <b>Semester Credit Hours</b> |  | <b>17</b> |
|------------------------------|--|-----------|

**Sophomore**
**Fall**

|           |                              |   |
|-----------|------------------------------|---|
| ENGR 2103 | Statics & Dynamics Lab       | 1 |
| ENGR 2303 | Statics & Dynamics           | 3 |
| ENGR 2360 | Thermodynamics & Fluid Mech  | 3 |
| MATH 2415 | Calculus III                 | 4 |
| PSCI 2305 | American National Government | 3 |
| PHYS 2126 | University Physics II Lab    | 1 |
| PHYS 2326 | University Physics II        | 3 |

|                              |  |           |
|------------------------------|--|-----------|
| <b>Semester Credit Hours</b> |  | <b>18</b> |
|------------------------------|--|-----------|

**Spring**

|           |                                |   |
|-----------|--------------------------------|---|
| ENGR 2105 | Principles of Elec Engr Lab    | 1 |
| ENGR 2305 | Principles of Elec Engineering | 3 |
| ENGR 2372 | Engineering Statistics         | 3 |
| ENGR 2390 | Mechanics of Materials         | 3 |
| GEOL 3420 | Petroleum Geology              | 4 |
| PSCI 2306 | American State Government      | 3 |

|                              |  |           |
|------------------------------|--|-----------|
| <b>Semester Credit Hours</b> |  | <b>17</b> |
|------------------------------|--|-----------|

**Junior**
**Fall**

|           |                               |   |
|-----------|-------------------------------|---|
| PETE 3110 | Petrophysics Lab              | 1 |
| PETE 3310 | Petrophysics                  | 3 |
| PETE 3111 | Well Log & Formation Eval Lab | 1 |
| PETE 3311 | Well Log & Formation Eval     | 3 |
| PETE 3330 | Reservoir Fluids              | 3 |
| MATH 3330 | Ordinary Diff Equations       | 3 |

|                              |  |           |
|------------------------------|--|-----------|
| <b>Semester Credit Hours</b> |  | <b>14</b> |
|------------------------------|--|-----------|

**Spring**

|           |                                |   |
|-----------|--------------------------------|---|
| CSCE 1136 | Funds of Programming Lab       | 1 |
| CSCE 1336 | Fundamentals of Programming    | 3 |
| PETE 3101 | Drilling Engineering I Lab     | 1 |
| PETE 3301 | Drilling Engineering I         | 3 |
| PETE 3307 | Reservoir Engineering I        | 3 |
| PETE 3120 | Petroleum Production Eng I Lab | 1 |
| PETE 3320 | Petroleum Production Eng I     | 3 |

|                              |  |           |
|------------------------------|--|-----------|
| <b>Semester Credit Hours</b> |  | <b>15</b> |
|------------------------------|--|-----------|

**Senior**
**Fall**

|           |                       |   |
|-----------|-----------------------|---|
| ENGR 1304 | Computer-Aided Design | 3 |
|-----------|-----------------------|---|

|                         |                              |   |
|-------------------------|------------------------------|---|
| ENGR 3300               | Engineering Economics        | 3 |
| PETE 4190               | Senior Design I              | 1 |
| PETE 4321               | Petroleum Production Eng. II | 3 |
| PETE 4370               | Well Testing                 | 3 |
| Lang., Phil., & Culture |                              | 3 |

|                              |  |           |
|------------------------------|--|-----------|
| <b>Semester Credit Hours</b> |  | <b>16</b> |
|------------------------------|--|-----------|

**Spring**

|                              |                              |   |
|------------------------------|------------------------------|---|
| PETE 4290                    | Senior Design II             | 2 |
| PETE 4382                    | Reserv Modeling & Simulation | 3 |
| Advanced PETE Elective*      |                              | 3 |
| Creative Arts                |                              | 3 |
| Social & Behavioral Sciences |                              | 3 |

|                              |  |           |
|------------------------------|--|-----------|
| <b>Semester Credit Hours</b> |  | <b>14</b> |
|------------------------------|--|-----------|

|                                    |  |            |
|------------------------------------|--|------------|
| <b>Total Semester Credit Hours</b> |  | <b>129</b> |
|------------------------------------|--|------------|

\*Advanced PETE Electives: select 3 semester credit hours from PETE 3340, PETE 4302, PETE 4312, PETE 4313, PETE 4322, PETE 4330, PETE 4332, PETE 4152-4352, PETE 4355, PETE 4380, PETE 4185-4385, PETE 4195-4395, or PETE 4199-4399.

*Actual degree plans may vary depending on the availability of courses in a given semester.*

*Some courses may require prerequisites not listed.*