Nuclear Technology

Contact Information

R.B. Richey
LEAD INSTRUCTOR
910.362.7401
rrichey@mail.cfcc.edu

SEQUENCE OF CLASSES

Reactor Service Technician

FALL SEMESTER I
ATR 112
CIS 110
EGR 115
ENG 111
ISC 112
MAT 121

SPRING SEMESTER I
ELC 131
HYD 110
NUC 110
NUC 120
PHY 131

SUMMER SEMESTER I
ENG 114
MAT 122
Sec. / Behavioral Sci. Elec.

FALL SEMESTER II
HUM 115
NUC 210
NUC 220
PHY 132
Elective - Note A

SPRING SEMESTER II
WBL 111

SUMMER SEMESTER II
ISC 130
MEC 130
MEC 265
NUC 130

Note A:  ELC 128 or MEC 111

Nuclear Plant Technician

SPRING SEMESTER I
ATR 112
CIS 110
EGR 115
ENG 111
ISC 112
MAT 121

SUMMER SEMESTER I
ENG 114
MEC 265
Sec. / Behavioral Sci. Elec.

SPRING SEMESTER II
CHM 121
HUM 115
MEC 267
PHY 132
Elective - Note B

SUMMER SEMESTER II
WBL 112

Note B:  ELC 117 or ELC 133 or ELN 260 or PCI 162

FALL SEMESTER I
ELC 131
MAT 122
NUC 110
NUC 120
PHY 131

FALL SEMESTER II
NUC 210
NUC 220
Elective - Note C
Elective - Note C
PHY 131

Note C:  Two from EGR 251, ELC 128, ELC 213, MEC 111, PCI 262
NUCLEAR TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE

The Nuclear Technology program prepares individuals to become qualified reactor field technicians who are employed by licensed nuclear reactor facilities.

FACILITIES

All Nuclear Technology academic courses are taught at the CFCC North Campus. The six semester Reactor Service Technician track begins each Fall Semester and the six semester Nuclear Plant Technician track begins each Spring Semester. The spring co-op semester for Reactor Service Technician students may include training at GE-Hitachi facilities in North Carolina or California and at GE reactors shutdown for refueling. The summer co-op semester for Nuclear Plant Technician students may include training at Duke Energy operating nuclear power plants.

EMPLOYMENT OPPORTUNITIES

Graduates are employed in entry level positions with nuclear plant maintenance contractors or with electric utilities operating nuclear plants. Starting pay is $15 to $20 per hour. There is significant overtime work plus expense-paid travel to locations in the U.S. and overseas where nuclear plants are located. Advancement is based on experience and additional certifications or qualifications.

### Required Classes

**Associate Degree Program**

I. General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Credit Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>Writing and Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>ENG 114</td>
<td>Professional Research and Reporting</td>
<td>3</td>
</tr>
<tr>
<td>HUM 115</td>
<td>Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>MAT 121</td>
<td>Algebra / Trigonometry I</td>
<td>3</td>
</tr>
<tr>
<td>Social / Behavioral Science Elective (Select one from the following)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECO 151</td>
<td>Survey of Economics</td>
<td>3</td>
</tr>
<tr>
<td>POL 110</td>
<td>Introduction to Political Science</td>
<td>3</td>
</tr>
<tr>
<td>PSY 150</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 210</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

II. Major Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester Credit Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATR 112</td>
<td>Introduction to Automation</td>
<td>3</td>
</tr>
<tr>
<td>CIS 110</td>
<td>Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>EGR 115</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>ELC 131</td>
<td>Circuit Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>ISC 112</td>
<td>Industrial Safety</td>
<td>2</td>
</tr>
<tr>
<td>MAT 122</td>
<td>Algebra / Trigonometry II</td>
<td>3</td>
</tr>
<tr>
<td>MEC 265</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>NUC 110</td>
<td>Nuclear Reactor Systems</td>
<td>3</td>
</tr>
<tr>
<td>NUC 120</td>
<td>Nuclear Reactor Theory</td>
<td>4</td>
</tr>
<tr>
<td>NUC 210</td>
<td>Nuclear Steam Plant Systems</td>
<td>4</td>
</tr>
<tr>
<td>NUC 220</td>
<td>Nuclear Primary Plant Systems</td>
<td>4</td>
</tr>
<tr>
<td>PHY 131</td>
<td>Physics - Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>PHY 132</td>
<td>Physics - Electricity &amp; Magnetism</td>
<td>Either</td>
</tr>
<tr>
<td>WBL 111</td>
<td>Work-Based Learning I</td>
<td>1</td>
</tr>
<tr>
<td>WBL 112</td>
<td>Work-Based Learning I</td>
<td>2</td>
</tr>
</tbody>
</table>

III. Electives - continued

- Nuclear Plant Technician
  - CHM 121 Foundations in Chemistry 3
  - EGR 251 Statics 3
  - ELC 117 Motors and Controls 4
  - ELC 128 Intro to PLC 3
  - ELC 133 Circuit Analysis II 4
  - ELC 213 Instrumentation 4
  - ELC 214 Machine Processes I 3
  - PCI 162 Instrumentation Controls 3
  - PCI 262 Intro. to Process Control 4

**Total Credits** 74/75

**Note:** This program includes a work-based learning course at a nuclear power plant that requires students to meet Federal regulations for fitness for duty and access authorization. Prior to registering for WBL 111 or 112, students must complete a background check, random drug screen, and psychological assessment. The college has agreements with the service providers of this process and students will be charged a fee that totals less than $200. Contact the Lead Instructor of Nuclear Technology for further details.