



Metal testing via AA spectroscopy



Gel Electrophoresis of DNA



Distillation of an organic compound



Water analysis via Ion Chromatography



Cape Fear
COMMUNITY COLLEGE

DOWNTOWN CAMPUS
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WILMINGTON, NC 28401
910-362-7000
www.cfcc.edu

CHEMICAL TECHNOLOGY

Two-year Associate in Applied Science



**Cape Fear
Community College
Downtown Campus
Wilmington, NC
www.cfcc.edu**

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Visit us on the web at
www.cfcc.edu/programs/ct

Chemical Technology

ASSOCIATE IN APPLIED SCIENCE

Curriculum Description

The Chemical Technology curriculum prepares students for work as analytical technicians in laboratories associated with instrumental analysis, environmental concerns, pharmaceuticals, or general chemical analysis.

Course Work

Course work includes general chemistry, organic chemistry, biochemistry, and introductory chemical engineering. Instrumental techniques include spectroscopy (UV-Vis, IR, AA), chromatography (GC, LC, IC), and basic forensic techniques, including gel electrophoresis of DNA, and gun-shot residue tests.

Employment Opportunities

Successful graduates qualify as entry-level laboratory technicians in a variety of industries including the pharmaceutical, environmental, and chemical industries. According to the American Chemical Society, chemical technicians earn between \$35,000 - \$40,000 per year. Technicians with 6 to 10 years of experience have earned between \$50,000 - \$65,000 per year.

Employers of Recent Graduates

| | |
|--------------------|------------------------|
| AAI Pharma | BioGen |
| City of Wilmington | Elementis Chromium |
| Element One | Environmental Chemists |
| Progress Energy | MSA |
| Paradigm, Inc. | Saybolt |
| SGS Corp. | Tritest Labs |
| Wright Corp | Quality Chemical Lab |
| Invista | ADM |

After Graduation

After graduation, CFCC's Chemical Technology graduates may enter directly into the workplace or transfer to another institution to pursue a Bachelor's degree in chemistry or chemical engineering. Currently, the department has working agreements with the University of North Carolina Wilmington (UNCW) as well as NC State University (NC State). The program also has an agreement with East Carolina University (ECU) that allows a student to pursue a Bachelor's degree in Industrial Processing. The BS in Industrial Processing can be completed online through ECU's Department of Distance Education.



Annual "Flash and Bang" Demonstration.

REQUIRED CLASSES

ASSOCIATES IN APPLIED SCIENCE

| I. General Education Courses | | Semester Credit Hours |
|------------------------------|------------------------------------|-----------------------|
| ENG 111 | Expository Writing | 3 |
| COM 110 | Intro to Communication | 3 |
| CTS 130 | Spreadsheet | 3 |
| | Hum/Fine Arts Elective | 3 |
| MAT 121 or MAT 171 | Algebra/Trigonometry I | 3 |
| MAT 122 or MAT 172 | Algebra/Trigonometry II | 3 |
| | Social/Behavioral Science Elective | 3 |

| II. Major Courses | | Semester Credit Hours |
|----------------------|------------------------|-----------------------|
| CIS 110 | Intro to Computers | 3 |
| CTC 111 | Basic Chemistry I | 7 |
| CTC 112 | Basic Chemistry II | 7 |
| CTC 120 | Organic Chemistry I | 2 |
| CTC 140 | Organic Processes | 7 |
| CTC 220 | Organic Chemistry II | 6 |
| CTC 230 | Organic Chemistry III | 5 |
| CTC 240 | Industrial Analysis I | 5 |
| CTC 250 | Industrial Analysis II | 5 |
| ISC 278 | cGMP Quality Systems | 2 |
| Total Credits | | 72 |

III. Electives

Select 2 hours from the list below:

| | | |
|---------|-------------------------|---|
| BIO 111 | General Biology | 4 |
| COE 111 | Co-op Work Experience I | 1 |
| COE 121 | Co-op Work Experience | 1 |
| COE 131 | Co-op Work Experience | 1 |
| ISC 112 | Industrial Safety | 2 |

Contact your advisor for current information

2010-2011 SEQUENCE OF CLASSES

| FALL SEMESTER I | FALL SEMESTER II |
|--------------------|----------------------------|
| CTC 111 | CTC 220 |
| ENG 111 | CTC 240 |
| MAT 121 or MAT 171 | Social/Behav Science Elect |
| CIS 110 | Chemical Technology Elect |

| SPRING SEMESTER I | SPRING SEMESTER II |
|--------------------|---------------------------|
| CTC 112 | CTC 230 |
| CTC 120 | CTC 250 |
| COM 110 | Humanities/Fine Art Elect |
| MAT 122 or MAT 172 | |

SUMMER SEMESTER I

| |
|---------|
| CTC 140 |
| ISC 278 |
| CTS 130 |



Loading of DNA sample for analysis.