

## **Chemical Laboratory Technician Short-Term Certificate**

410301 CHM

Available: Phil Campbell and Shoals Campuses  
 Advisors: C. Sockwell (5378) [sockwell@nwsc.edu](mailto:sockwell@nwsc.edu)  
 M. Murphy (6246) [docm@nwsc.edu](mailto:docm@nwsc.edu)

The Chemical Laboratory Technician short-term emphasizes chemistry and mathematics. The holder of this certificate will have completed 8 semester hours of chemistry and will be exposed to many different areas of chemistry. These areas include fundamental concepts of chemistry, chemical equations and reaction, stoichiometry, thermochemistry, atomic structure, general concepts of chemical bonding, Valence Bond Theory, Molecular Orbital Theory, chemistry of gases and kinetic theory, acids and bases, chemical equilibrium, and chemical thermodynamics. The material covered in the courses, along with skills developed in the laboratory, prepares the student for a wide range of employment possibilities, from industrial laboratories to environmental testing.

For those students who wish to continue their education, these courses are transferable.

**Entering students are required to complete ORI 101.  
 Transfer students are exempt from this requirement.**

|                                  | Semester |     |       |
|----------------------------------|----------|-----|-------|
|                                  | Theory   | Lab | Hours |
| BIO 103 Principles of Biology I  | 3        | 2   | 4     |
| CHM 111 College Chemistry I      | 3        | 3   | 4     |
| CHM 112 College Chemistry II     | 3        | 3   | 4     |
| **ENG 101 English Composition I  | 3        | 0   | 3     |
| ENG 130 Technical Report Writing | 3        | 0   | 3     |
| MTH 112 Precalculus Algebra      | 3        | 0   | 3     |
| MTH 265 Elementary Statistics    | 3        | 0   | 3     |

**Total Semester Credit Hours ..... 24**

\*\*Keyboarding skills are essential for the successful completion of English 101.

## **Child Development Short-Term Certificate**

190708 CHD

Available: Phil Campbell and Shoals Campuses  
 Advisors: D. Durdunji (5450) [durdunji@nwsc.edu](mailto:durdunji@nwsc.edu)

This short-term certificate is designed to prepare students for employment in preschool programs. Emphasis is upon developing competency in guiding the experience of preschool children. Graduates may be employed as teachers or directors in private and public preschool programs; and as aides in Head Start.

Classes in this plan are designed to meet the Alabama state minimum standard qualifications for a director, program director, and teacher in a licensed child care center.

This short-term certificate program offers the student background knowledge of all stages of child growth and development; training and practical experience in conducting all types of learning activities with children; knowledge and application of techniques in positive guidance and discipline, health, safety, and first aid practices, and a basic knowledge of the state minimum standards for daycare centers and homes.

Any person who has an interest in or a desire to upgrade his or her knowledge in child care work and has a high school diploma or GED will be eligible for this short-term certificate.

**Entering students are required to complete ORT 100.  
 Transfer students are exempt from this requirement.**

|  | Semester |     |       |
|--|----------|-----|-------|
|  | Theory   | Lab | Hours |
| CHD 201 Child Growth and Development Principles                      | 3        | 0   | 3     |
| CHD 202 Children's Creative Experiences                              | 2        | 2   | 3     |
| CHD 203 Children's Literature and Language Development               | 2        | 2   | 3     |
| CHD 204 Methods and Materials for Teaching Children                  | 2        | 2   | 3     |
| CHD 206 Children's Health and Safety                                 | 3        | 0   | 3     |
| CHD 205 Program Planning for Educating Young Children                | 3        | 0   | 3     |
| CHD 215 Supervised Practical Experience in Early Childhood Education | 0        | 6   | 3     |
| **CHD Electives  | 6        | 0   | 6     |

**Total Semester Credit Hours ..... 27**

\*\*CHD Electives

CHD 100 Introduction to Early Care and Education  
 CHD 208 Administration of Child Development Programs  
 CHD 209 Infant and Toddler Education Programs  
 CHD 210 Educating Exceptional Young Children  
 CHD 214 Families and Communities in Early Care

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