

# Physical Sciences

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To find faculty & staff phone numbers and email addresses, please consult the University Directory (<http://www.dixie.edu/directory/directory.php>).

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## Physical Sciences Program Description

The Dixie State University Physical Sciences department offers a variety of courses in Chemistry, Engineering, Environmental Science, Geology, Geography, and Physics that allow students to better understand and appreciate the natural world and our place in it. Many of these courses fulfill the General Education Physical Science requirement for all students. Coursework and academic degrees offered in the Physical Sciences also fulfill prerequisites and requirements for students planning to pursue careers in natural sciences, chemistry, physics, engineering, environmental sciences, earth sciences, and medical and health sciences.

## Degrees & Minors

- Bachelor of Science in Chemistry ([catalog.dixie.edu/programs/physicalsciences/bachelor\\_of\\_science\\_in\\_chemistry](http://catalog.dixie.edu/programs/physicalsciences/bachelor_of_science_in_chemistry))
- Bachelor of Science in Mechanical Engineering ([catalog.dixie.edu/programs/physicalsciences/bachelor\\_of\\_science\\_in\\_mechanical\\_engineering](http://catalog.dixie.edu/programs/physicalsciences/bachelor_of_science_in_mechanical_engineering))
- Bachelor of Science in Physical Science Composite Teaching, Secondary Education Licensure ([catalog.dixie.edu/programs/physicalsciences/bachelor\\_of\\_science\\_in\\_physical\\_science\\_composite\\_teaching\\_\\_secondary\\_education\\_licensure](http://catalog.dixie.edu/programs/physicalsciences/bachelor_of_science_in_physical_science_composite_teaching__secondary_education_licensure))
- Bachelor of Arts / Science in Integrated Studies - Chemistry Emphasis ([catalog.dixie.edu/programs/interdisciplinaryartsandsciences/bachelor\\_of\\_sciencebachelor\\_of\\_arts\\_in\\_integrated\\_studies\\_\\_chemistry\\_emphasis](http://catalog.dixie.edu/programs/interdisciplinaryartsandsciences/bachelor_of_sciencebachelor_of_arts_in_integrated_studies__chemistry_emphasis))
- Bachelor of Arts / Science in Integrated Studies - Earth Science Emphasis ([catalog.dixie.edu/programs/interdisciplinaryartsandsciences/bachelor\\_of\\_sciencebachelor\\_of\\_arts\\_in\\_integrated\\_studies\\_\\_earth\\_science\\_emphasis](http://catalog.dixie.edu/programs/interdisciplinaryartsandsciences/bachelor_of_sciencebachelor_of_arts_in_integrated_studies__earth_science_emphasis))
- Associate of Science in Pre-Engineering (APE) ([catalog.dixie.edu/programs/physicalsciences/associate\\_of\\_preengineering](http://catalog.dixie.edu/programs/physicalsciences/associate_of_preengineering))
- Minor in Chemistry ([catalog.dixie.edu/programs/physicalsciences/minor\\_in\\_chemistry](http://catalog.dixie.edu/programs/physicalsciences/minor_in_chemistry))
- Minor in Chemistry Education ([catalog.dixie.edu/programs/physicalsciences/minor\\_in\\_chemistry\\_education](http://catalog.dixie.edu/programs/physicalsciences/minor_in_chemistry_education))
- Maker Certificate ([catalog.dixie.edu/programs/physicalsciences/maker-certificate](http://catalog.dixie.edu/programs/physicalsciences/maker-certificate))

## The Chemistry Program Learning Outcomes are:

- 1) Will be able to demonstrate knowledge of the skills required to make informed personal and social decisions about the issues that we will face locally as well as globally.
- 2) Will be able to demonstrate knowledge of basic fundamental laws, concepts, and theories in the physical sciences and be able to apply them to everyday life.
- 3) Will understand the process of science — how scientific knowledge is generated and validated — so that they can make independent, empirical inquiries about the natural world.
- 4) Will be able to demonstrate knowledge of the process of science by being able to interpret data in the form of tables, graphs, and charts and then communicate those findings in oral and or written form.

## **Physical Science Career Information**

### **Chemistry**

#### **Career Opportunities**

There are a number of directions a bachelor's degree in chemistry can go. Primarily, it's a launch pad for a graduate degree in chemistry; which could lead to careers in chemical engineering, healthcare, pharmaceuticals, or in the public sector. With just an undergraduate degree, however, chemistry majors can hope for careers in research or as chemical technicians.

#### **Job Outlook\***

Employment for chemists is expected to grow by 3% from 2014 to 2024, slower than the average for all occupations. Employment for chemical technicians will grow slightly slower in the same decade, increasing by 2%. The development of cheaper energy is expected to boost the chemical manufacturing activity in the United States, and generate a higher demand for chemical technicians.

#### **Salary Range\***

The median annual wage for chemists in 2015 was \$71,260. The lowest 10 percent earned less than \$41,110, and the highest 10 percent earned more than \$125,740. For chemical technicians, the median annual wage was \$44,660. The lowest 10 percent earned less than \$27,260, and the highest 10 percent earned more than \$75,230.

### **Secondary Education**

#### **Job Outlook\***

Employment of middle school and high school teachers is expected to grow 6% from 2014 to 2024, about as fast as average for all occupations.

#### **Salary Range\***

In 2015, the median annual wage for middle school teachers was \$55,860. The lowest 10 percent earned less than \$37,350, with the highest 10 percent earning more than \$87,060. For high school teachers, the median annual wage was \$57,200. The lowest 10 percent earned less than \$37,800, and the highest earned more than \$91,190.

\* Derived from the Occupational Outlook Handbook