



MAJOR CHOSEN: CHEMISTRY

I. A BRIEF DESCRIPTION OF THE MAJOR

Chemists are curious about the composition and structure of matter and why it behaves the way it does. They explain their observations in terms of the properties of the building blocks (atoms, molecules, and ions) of matter. Chemistry is applicable to all walks of life because all of the objects we encounter are made of similar building blocks. Mastery of chemistry enables one to not only explain and predict chemical properties, but also to synthesize new materials with desirable attributes. Bob Jones University offers a major in chemistry that combines scientific excellence with the perspective of dedicated Bible-believing professors committed to a literal interpretation of the Genesis account of creation.

II. COURSE HIGHLIGHTS

Here are some of the courses you will especially enjoy:

General Chemistry This course is a survey of the most important principles of chemistry.

Organic Chemistry Here you will study the nature and synthesis of some of the more than nine million known compounds that contain carbon.

Analytical Chemistry You will learn how to analyze materials with a wide variety of methods.

Introduction to Molecular Modeling Sophisticated computer software is used to calculate and visualize properties of molecules and to study their chemical reactions.

Physical Chemistry This class emphasizes the concepts and principles that are key to understanding the entire subject of chemistry.

Inorganic Chemistry This course covers atomic and molecular structure, bonding, chemical forces, acid-base chemistry, and coordination chemistry.



III. A TYPICAL YEARLY COURSE SEQUENCE

This is a suggested program of study for you. Other refinements to your program can be made when you consult your faculty advisor at the time of your enrollment.

You will notice that some courses are listed as electives. These electives give you the opportunity to tailor your program by selecting courses you would like to take for your own personal enjoyment.

Freshman

Orientation	1	Orientation	1
General Chemistry I	4	General Chemistry II	4
Transcendental Functions	3	Calculus I	3
Old Testament Messages	1	New Testament Messages	1
General Psychology	3	Fundamentals of Speech	3
English Composition.....	3	English Composition.....	3
Minor or Electives	<u>1</u>	Minor or Electives	<u>1</u>
Total	16	Total	16

Sophomore

Organic Chemistry I	4	Organic Chemistry II	4
General Physics I	4	General Physics II	5
Calculus II	3	Calculus III	3
Sophomore Bible Elective	1	Sophomore Bible Elective	1
English Literature.....	3	Minor or Elective	<u>3</u>
Minor or Electives	<u>1</u>	Total	16
Total	16		

Junior

Physical Chemistry I	4	Analytical Chemistry	4
Calculus IV	3	Physical Chemistry II	4
History of Civilization	3	History of Civilization	3
Bible Doctrines	3	Christian Family Forum	1
Minor or Electives.....	<u>3</u>	Bible Doctrines	3
Total	16	Minor or Electives	<u>1</u>
		Total	16

Senior

Research in Chemistry I	1	Introduction to Molecular Modeling	2
Inorganic Chemistry	3	Research in Chemistry II	1
Chemical Spectroscopy	4	Oral Communication for the Professions	3
Chemistry Seminar	1	Upper-Level Bible Elective	2
Upper-Level Bible Elective	2	Psychology Elective	3
History & Philosophy of Science	3	Science: Impact on Society	3
Minor or Electives.....	<u>2</u>	Minor or Electives	<u>2</u>
Total	16	Total	16



IV. FACILITIES, EQUIPMENT, AND OPPORTUNITIES

We have several modern, well-equipped laboratories available for your use. One laboratory is used for general chemistry, another for organic and biochemistry, and a third for analytical and physical chemistry. In addition, there is a special lab for advanced projects and a computer lab that supports molecular modeling.

Computerized Data Acquisition will aid you in your projects and experiments. Personal computers are used in conjunction with various digital interfacing devices to acquire experimental data from lab apparatus.

Independent research and advanced laboratory work in chemical spectroscopy will challenge you during your senior year.

All of our equipment adequately supports your educational goals. Below is a list of some of what we have:

- benchtop centrifuges
- digital pH meters
- high-quality analytical balances
- infrared spectrophotometer
- INEL X-ray diffractometer system
- polarizing microscope/camera system.
- atomic absorption/emission spectrophotometer
- computer-controlled dual-channel fiber-optic visible spectrometer
- modular high-pressure liquid chromatograph
- gas chromatograph
- polarimeters
- sophisticated, up-to-date computer equipment

Completely equipped computer laboratories are available for your use. There are many academic computer labs conveniently located all over campus. They consist of various types of PCs, Apple PowerMacs, and laser printers and are all interconnected via a Novell computer network.

Chapel is a central feature of Bob Jones University. This 35-minute service is held every morning, Monday through Thursday. These services are a source of great inspiration to students. Four days a week the Chapel message is brought by the President or by selected speakers. Each Friday the Chapel period is devoted to the meetings of various literary societies.

The Mack Library, with 90,000 square feet of floor space and seating for over 1,300 students, gives you access to 294,000 volumes, 1,100 current periodical subscriptions, and more than 17,000 music, speech, and language recordings. Mack Library offers access to over 65 electronic databases on the library web site. An interlibrary loan program is available through OCLC, a national database, for books not held in our library. Other prominent features include the Jerusalem Chamber, a replica of the room in Westminster Abbey in London in which work was done on the 1611 King James Bible, and the University Archives Room which displays materials about the Founder and history of the University.



Davis Field House, with over 87,000 square feet and seating for 3,000 people, contains 4 full-sized courts; auxiliary courts; indoor and outdoor tracks; swimming pool; café; and a fitness center with fully-equipped exercise room, aerobic room, sauna, and whirlpool.

If you are planning to live on campus, you will be glad to know that all of our residence halls are air-conditioned, have wall-to-wall carpeting, and have a phone in each room. You will be able to make long-distance calls directly from your room and have them automatically placed on your school bill. Computer network connectivity is available in all residence halls, as well.

All of our classrooms are air-conditioned, and there are awnings over the sidewalks to keep you dry when it is raining. The Dining Common serves 8,500 delicious meals a day, and the Snack Shop and Bookstore in the Student Center carry just about anything you'll need.

You will find the finest Christian young people in the country are your fellow students, and without trying too hard, you may end up making a life-long friend!

V. ABOUT THE FACULTY

Our chemistry faculty represents an excellent balance of expertise. All of our full-time chemistry faculty have Ph.D. degrees in their fields, earned at leading graduate schools. The chemistry faculty have specialization in several areas, including organic, inorganic, physical, analytical, and biochemistry. They have gained additional knowledge and research experience by participating in summer projects done for private industry and at government-funded universities and military installations. Their teaching skills are continually being sharpened by participating in the Summer Institute for Teaching Science held on campus each summer and supported by funds from the Science & Engineering Endowment.

VI. CAREER OPPORTUNITIES AND PLACEMENT

Since chemistry is the central science, career opportunities abound. Every manufacturing process in the world depends on people who are knowledgeable about chemistry. The government reports a growing shortage of chemical professionals that is expected to continue through the decade. Our country has critical needs for people with a background in chemistry, not only in the chemical industry, but also in medicine, government, education, marketing, information science, writing, and law.

Someday your job title could be one of these:

Advertising Director	Physician
Business Manager	Plant Manager
Chemical Engineer	Polymer Chemist
Chemist	Process Chemist
Conservation Scientist	Product Manager
Design Engineer	Professor
Development Specialist	Public Health Inspector
Director of Analytical Services	Public Relations Manager
Editor	Quality Control Chemist



Environmental Scientist	Research Chemist
Forensic Analyst	Safety Officer
Industrial Hygienist	Sales Manager
Laboratory Supervisor	Senior Analyst
Market Research Supervisor	Software Specialist
Metallurgist	Systems Analyst
Mineralogist	Technical Director
Occupational Hygienist	Technical Information Officer
Operations Manager	Technologist
Patent Researcher	Toxicologist

VII. BJU: AN AFFORDABLE EDUCATION

Enclosed is an expense sheet detailing the cost of attending Bob Jones University. When you compare our charges to those of other private colleges, we think you will be pleasantly surprised. We believe we offer a student more value for his dollar than anyone else in America. And to help you see how affordable "the Opportunity Place" can be for you, we have enclosed a financial aid brochure that you can use to evaluate your own situation. Your Admissions Counselor or the Director of Student Financial Aid would be happy to discuss this with you if you have any questions.

HOW TO TAKE THE NEXT STEP...

If you can see yourself in the career described in the profile, then a great opportunity awaits you at Bob Jones University. It is the opportunity for the premier Christian college experience in all the world. It is the opportunity for learning, for fun, and for developing new friendships. It is the opportunity to prepare for a lifetime of service for the Lord . . .

The Opportunity Place...God's Special Place for You.