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## MAJOR CHOSEN: MATHEMATICS

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### I. A BRIEF DESCRIPTION OF THE MAJOR

In our mathematics program, we place emphasis on the understanding of mathematical concepts. As a result, you will learn both the theory and the application of mathematics. Since we go far beyond drill and routine use of mathematics, our graduates perform extremely well in graduate schools and in industry.

### II. COURSE HIGHLIGHTS

Here are some of the courses you will especially enjoy:

*Transcendental Functions* The study of transcendental functions will focus on trigonometric functions, logarithmic and exponential functions, as well as the logical justification of related theory. This course, therefore, serves as a bridge between high school mathematics and calculus based college mathematics.

*Calculus* The Calculus sequence includes four semesters of intriguing study that is the heart of the mathematics program. Calculus as the mathematics of change provides an exciting opportunity to understand how infinite limits generate powerful tools to find maxima and minima, volumes and area, and model real world phenomena. Science, engineering, and technology all depend heavily on Calculus.

*Elementary Linear Algebra* This course takes one from the simple ideas of matrices introduced in high school to more general ideas like vectors, vector functions, linear functions, solutions of linear systems, as well as matrices and determinants. Linear Algebra provides the skills and understanding necessary to use vectors as a problem solving tool in Calculus.

*Probability and Statistics* The mathematics of Probability and Statistics give mathematicians and scientists the necessary tools to make very accurate conjectures about large populations based on smaller samples. This study will include counting methods, probability of events, expected value, standard deviation and a number of statistical distributions.



### 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
Transcendental Functions .....	3	Calculus I .....	3
History of Civilization .....	3	History of Civilization .....	3
Old Testament Messages .....	1	New Testament Messages .....	1
General Psychology .....	3	Fundamentals of Speech .....	3
English Composition.....	3	English Composition.....	3
Social Studies Electives .....	<u>3</u>	Social Studies Electives .....	<u>3</u>
Total .....	17	Total .....	17

#### *Sophomore*

General Physics I .....	4	General Physics II .....	5
Calculus II .....	3	Elementary Linear Algebra .....	3
English Literature.....	3	Calculus III .....	3
Psychology Elective.....	3	Sophomore Bible Elective .....	1
Sophomore Bible Elective.....	<u>1</u>	Minor or Electives .....	<u>4</u>
Total .....	14	Total .....	16

#### *Junior*

Calculus IV .....	3	Christian Family Forum .....	1
Computer Programming Elective .....	3	Bible Doctrines .....	3
Bible Doctrines .....	3	Oral Communication for the Professions .....	3
Minor or Electives .....	<u>7</u>	Mathematics Elective .....	3
Total .....	16	Mathematics Elective .....	3
		Minor or Electives .....	<u>3</u>
		Total .....	16

#### *Senior*

Mathematics Seminar .....	1	Upper-Level Bible Elective .....	2
Upper-Level Bible Elective .....	2	Mathematics Elective .....	3
Mathematics Elective .....	3	Mathematics Elective .....	3
Mathematics Elective .....	3	Minor or Electives .....	<u>8</u>
Minor or Electives .....	<u>7</u>	Total .....	16
Total .....	16		



## IV. FACILITIES, EQUIPMENT, AND OPPORTUNITIES

**Based on the results of placement tests and/or ACT scores**, you will be placed into courses on a level appropriate for you. Therefore, you will not waste time nor will you face an unreasonable challenge.

**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.

**You will find excellent supportive and complementary programs** here to strengthen your mathematics major, such as:

Electronics	Physics and engineering science
Chemistry	Master's program in
Computer science	mathematics education
Business administration	

**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.

**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.

**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.

**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

The Mathematics faculty is well qualified to teach you as they bring over 150 years of combined teaching experience to their task. In addition, a number of them have done outside consulting work. You will benefit from the practical, firsthand experiences they have had using their knowledge to solve actual industry problems.

**Dr. Gary Guthrie** (Ph.D., Mathematics and Computer Science) is chairman of the division of mathematical science and has been teaching for over 40 years. In addition to teaching, he has been a computer programmer and consultant and helped author a mathematics book.

**Dr. Bob Taylor** (Ph.D., Mathematics) is the dean of the College of Arts and Science. He has been teaching for over 45 years.

**Mr. Larry Lemon** (M.S., Mathematics) has been teaching for over 40 years. He has authored and co-authored several mathematics books.

**Dr. Kathy Pilger** (Ed.D., Mathematics) has been teaching for over 25 years. She has authored several textbooks in mathematics, and is in charge of the BJU mathematics education program.

**Dr. Dave Brown** (Ph.D., Mathematics) has been teaching for over 20 years. His Ph.D. is in the area of abstract algebra, and he has a special interest in number theory. He also acts as advisor for all BJU mathematics majors.

**Dr. Jim Knisley** (Ph.D., Mathematics) has been teaching for over 15 years. He also teaches several computer science courses and has a special interest in computational mathematics.

## VI. CAREER OPPORTUNITIES AND PLACEMENT

As a Mathematics major, you will have the opportunity to go to graduate school before entering your career. Our graduates not only are readily accepted in most graduate schools, but also are eagerly recruited. Most graduates place at the top of their respective graduate classes.

The following are some opportunities available to you:

1. **College Teaching** – a rewarding profession for those with abilities to earn an advanced degree
2. **Computer Science and Computer Engineering** – a profession for those with the mathematical and creative skills to design the platforms for computation at all levels
3. **Cryptography and Computer Security** – using computational tools to develop encryption methods for the security of Government secrets or personal data in the world of commerce
4. **Engineering** – designing the tools and structure of modern technology for those with strong abilities in mathematics and physics
5. **Government and Industry** – employees with broad mathematical and computer background who become the problem solvers of choice
6. **Law** – the logic and reasoning experiences of those with a strong mathematics background make for some very successful attorneys



7. **Life Insurance** – the actuarial field requires significant mathematics training and problem solving skills
8. **Medicine** – mathematically competent doctors are more and more in demand as the world of technology expands into every area of medicine
9. **Statistics** – a statistician has become necessary in much of industry just to help the company officers make sense of vast quantities of data flooding the corporate world

## 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.