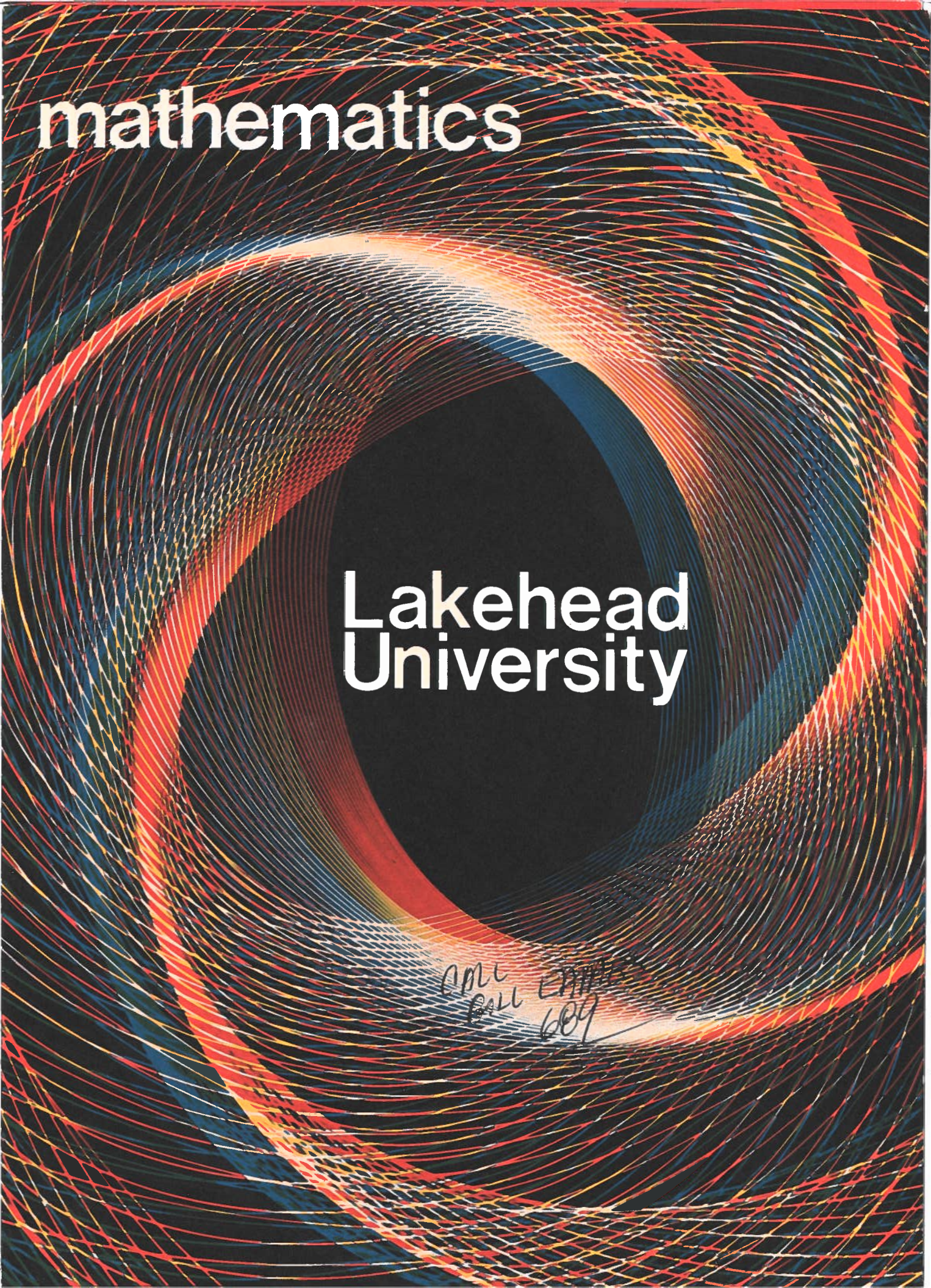
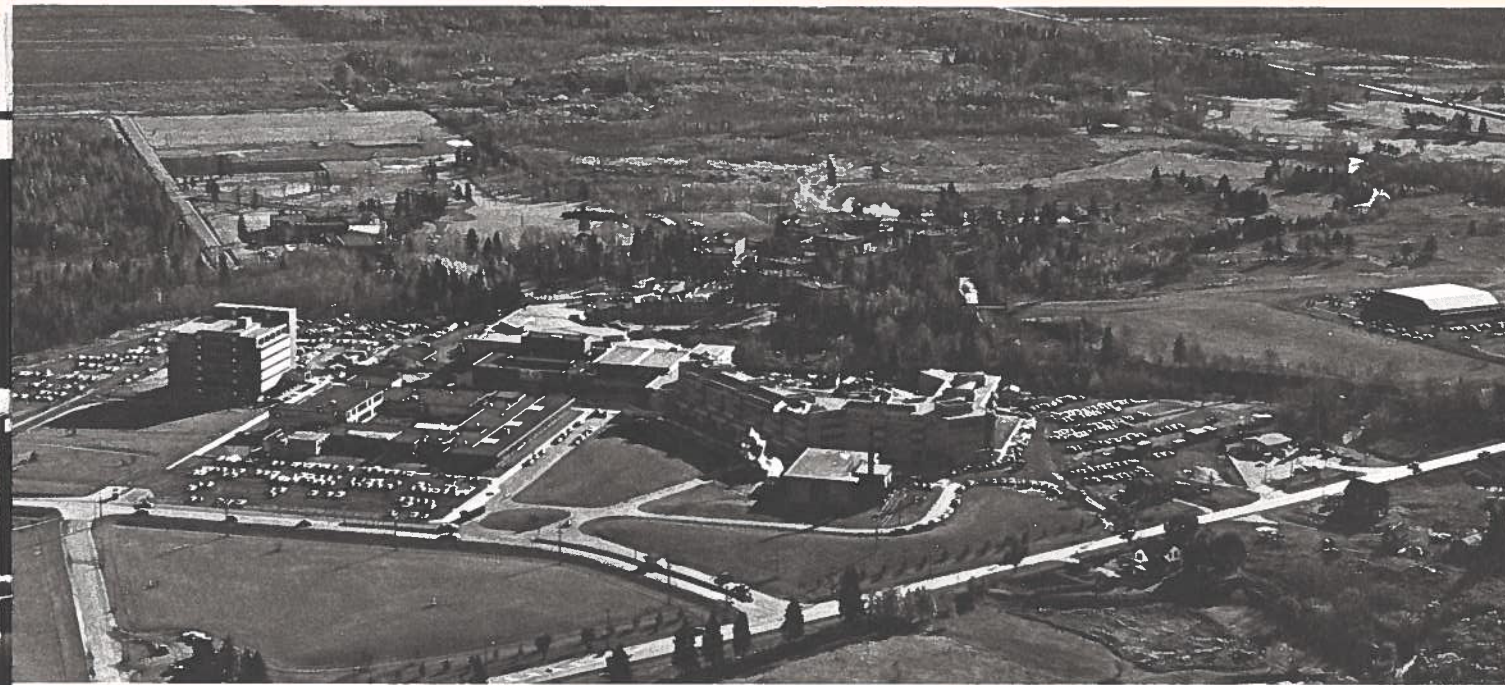
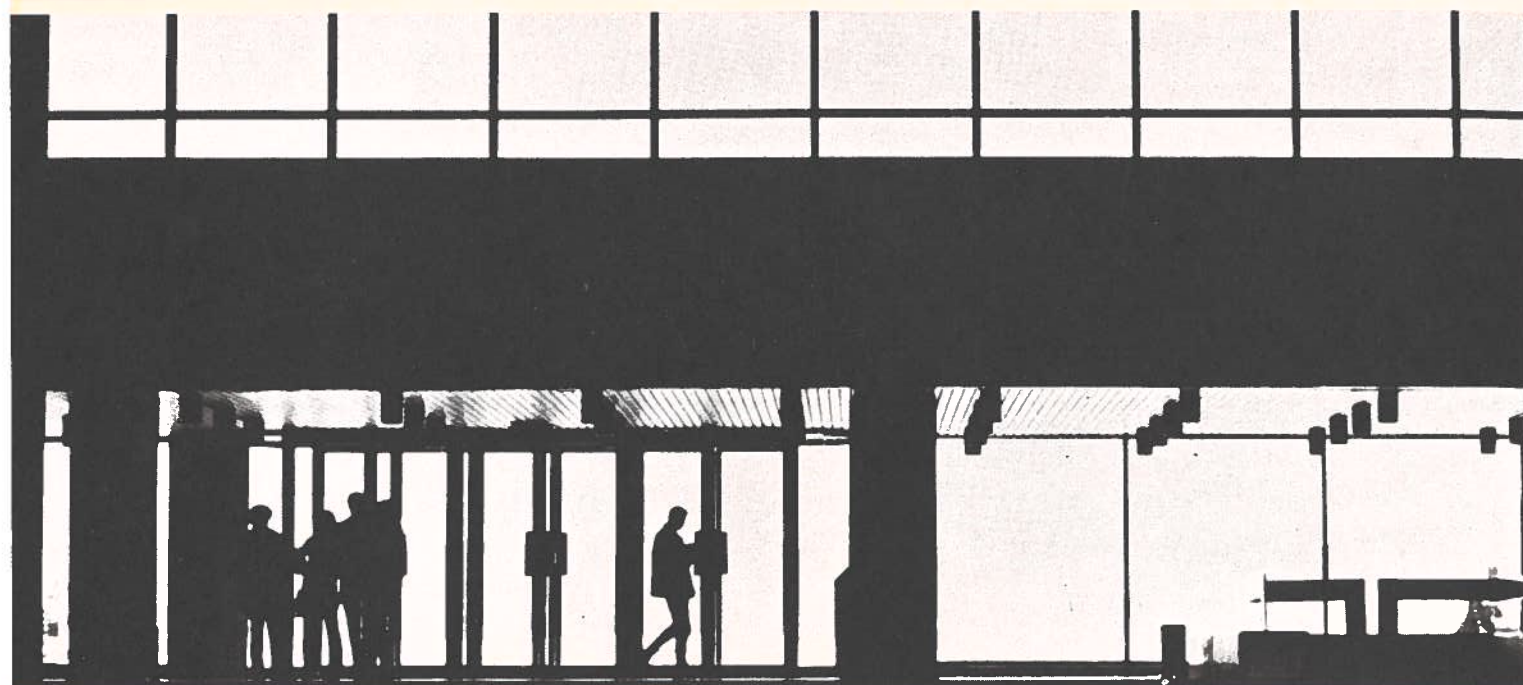




mathematics

Lakehead
University

AMC
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why study mathematics?

People do what they enjoy doing. Musicians presumably like music, actors like acting, and teachers like teaching — so it is not surprising that mathematicians study mathematics because they like to study mathematics. If you liked mathematics at school — by “mathematics” we mean the ideas of the subject, not the memorizing of formulas or the blind manipulation of symbols — then you would probably like it at university and should consider taking a degree in it.

Of course, mathematics is more than just a pleasant pastime. It is a growing, ever-changing body of human endeavor which provides the other sciences with their tools, generalizes and interprets their results, and often leads them into new and unsuspected areas of inquiry. So, science could not exist without mathematics. But mathematics could certainly exist without the other

sciences. It did exist without them in the time of Euclid, and it is entirely possible that mathematics will continue to grow long after the other sciences have run out of worlds to conquer, for mathematics alone is not confined by physical reality, it deals with “what could be” rather than “what is.” It is a common misconception that mathematics is done, its work is finished. Mathematics will grow as civilization grows. In the last few years its growth has accelerated tremendously, partly because of the demands of the other sciences but mostly because of the increasing interest in the subject itself. Like a benevolent monster, the larger it is, the faster it grows. As evidence of this growth, 90% of all the mathematicians who have ever existed are now living, and today mathematics is one of the most popular subjects at the university level. But don't think that it is popular because it is easy — it's probably one of the most difficult courses — its growth and popularity depend on the fact that it is challenging, relevant and exciting.

the university

Lakehead University is situated on 300 acres of land overlooking the city of Thunder Bay, which has a population of about 107,000. At present the city supports a symphony orchestra, a nationally famous men's choir, several art and craft groups, and a semi-professional theatre. The country around the Lakehead is well-known for its fishing, hunting, camping and canoeing, and for the opportunities it provides for an active outdoor life. During the winter there is excellent skiing within 30 minutes of the campus.

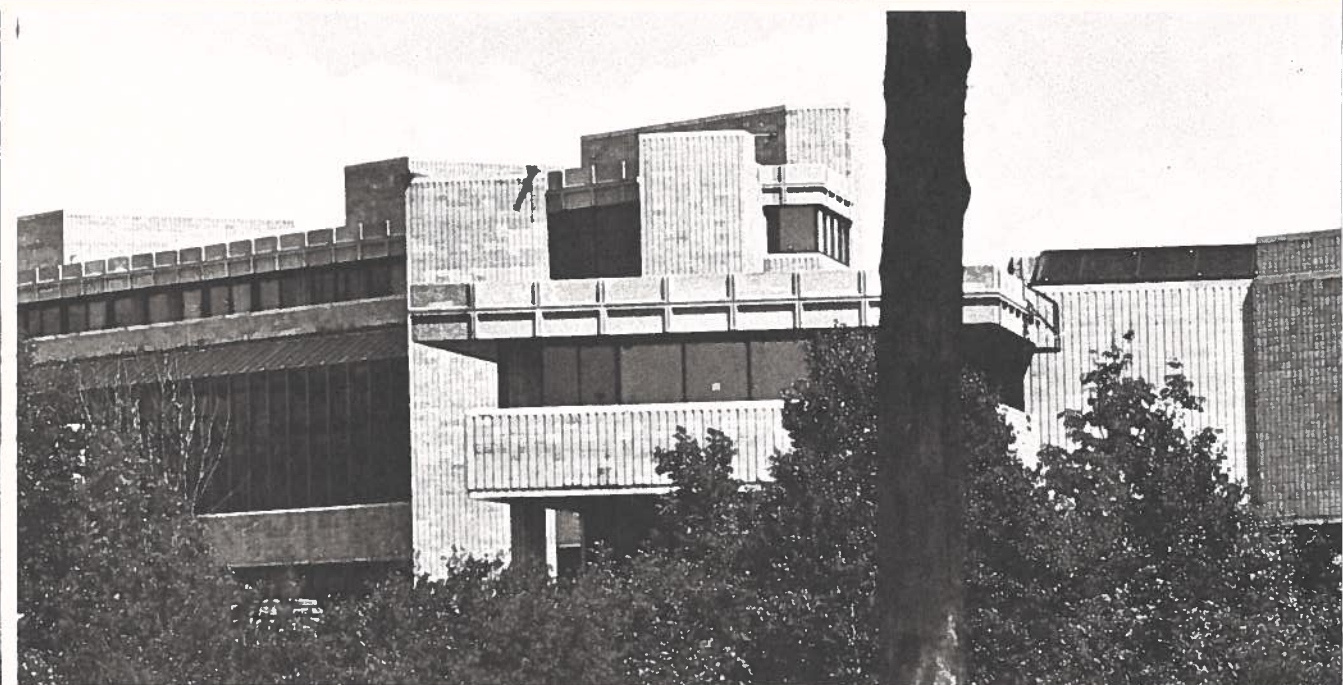
Most of the work of the Mathematics Department is carried on in the Centennial Complex, a \$14 million building which was completed in 1969. Since class sizes are small, the students have an excellent opportunity to meet one another and to consult faculty members. Every mathematics major is assigned a faculty advisor who will help him with academic and other aspects of university life. Students are also encouraged to join the Mathematics Club and to participate in the departmental seminars. During

the year there are three ‘research weeks’ devoted to specific topics in mathematics, so our students have the opportunity to meet outstanding Canadian and foreign mathematicians and to acquaint themselves with current trends in research.

Ten three-storey residence buildings are located in a heavily-wooded setting on the banks of the McIntyre River and are connected by a pedestrian walk-way. Each building accommodates 48 students, a design fostering individual study and group discussions. Students set their own rules for residence living.

To receive a copy of the undergraduate information brochure and other information about the University, write to:

The Director of Admissions,
Lakehead University,
Oliver Road,
Thunder Bay, Ontario, Canada.



course offerings

Our department offers a wide range of courses leading to the degrees of B.Sc., B.Sc. (Honors), B.A., B.A. (Honors). The honors degrees normally require four years, the other (general) degrees require three years. The difference between the Arts and Science Programs is in the choice of non-mathematics courses; students registered for a B.Sc. take the same mathematics courses as students registered for a B.A.

In the first year there are two mathematics courses, both of which must be taken by mathematics majors; these courses are 1a8 which is a practical course in Algebra and Calculus, and 1m6, which is an introduction to some of the basic ideas in modern mathematics. Much of the work in 1a8 is just a continuation of Grade 13 mathematics. The problems are practical ones: maximizing areas, minimizing costs, solving sets of equations and so on. In 1m6, the problems are more sophisticated: what is an integer? Why do we need complex numbers? If a curve is smooth, does it have a derivative? In the first year, you will also have in-

struction in the use of computers, and be able to use the University's computer under the guidance of the department.

By the end of the first year, you will know if you should make mathematics your career, and if you do, then members of the department will be pleased to help you in your choice of courses. Some courses are designed for pure mathematicians, some for applied mathematicians, some are orientated towards physics, chemistry and computer science. In addition to the mathematics courses, a mathematics major may take courses in English, physics, chemistry, economics and so on. You can choose what you want, subject to the University regulations stated in the Calendar.

There is also a four-year program leading to the degree of B.A. or B.Sc. and B.Ed. This is designed to prepare secondary school teachers with specializations in mathematics and is the first such program in Ontario.

For further information, please write The Secretary, The Department of Mathematics, Lakehead University, Thunder Bay, Ontario, Canada.

awards

A list of scholarships and awards is given in the University Calendar. In addition, the Department employs students as markers and tutors. Some of the senior students earn as much as \$50 a month while carrying a full load of academic work.

library facilities

The University Library contains approximately 100,000 volumes, of which about 2,000 are concerned with mathematics. In addition, the University subscribes to some 100 mathematics journals and the library telex facilities permit rapid communication with libraries of other universities when specialized material is needed.

employment

During the academic year, representatives of various companies and public agencies visit the campus, giving lectures, showing films and conducting panel discussions concerning employment opportunities in their firms.

There are two full-time student placement officers on campus to help advise you and

to arrange interviews with prospective employers. Thus, by the time of your graduation, you will have a good idea of what type of position you prefer and the possibility of obtaining it.

A mathematics major usually has little difficulty obtaining a reasonable position. A general degree prepares a student for high school teaching, administrative training positions, and similar work. For example, large firms such as Eaton's hire general degree graduates, let them work in various departments within the organization for a year or so, and then, having evaluated their work, offer them suitable positions in the company. Some firms — I.B.M. is an example — require that prospective employees pass an aptitude test for which mathematical training is a definite asset. An honors degree prepares a student for much more specialized work, and some firms will only consider honors graduates.

But at the beginning of your university life it is probably useless to decide on your eventual career — new interests will be aroused, and many old ones die. A degree in mathematics opens the door to many opportunities.