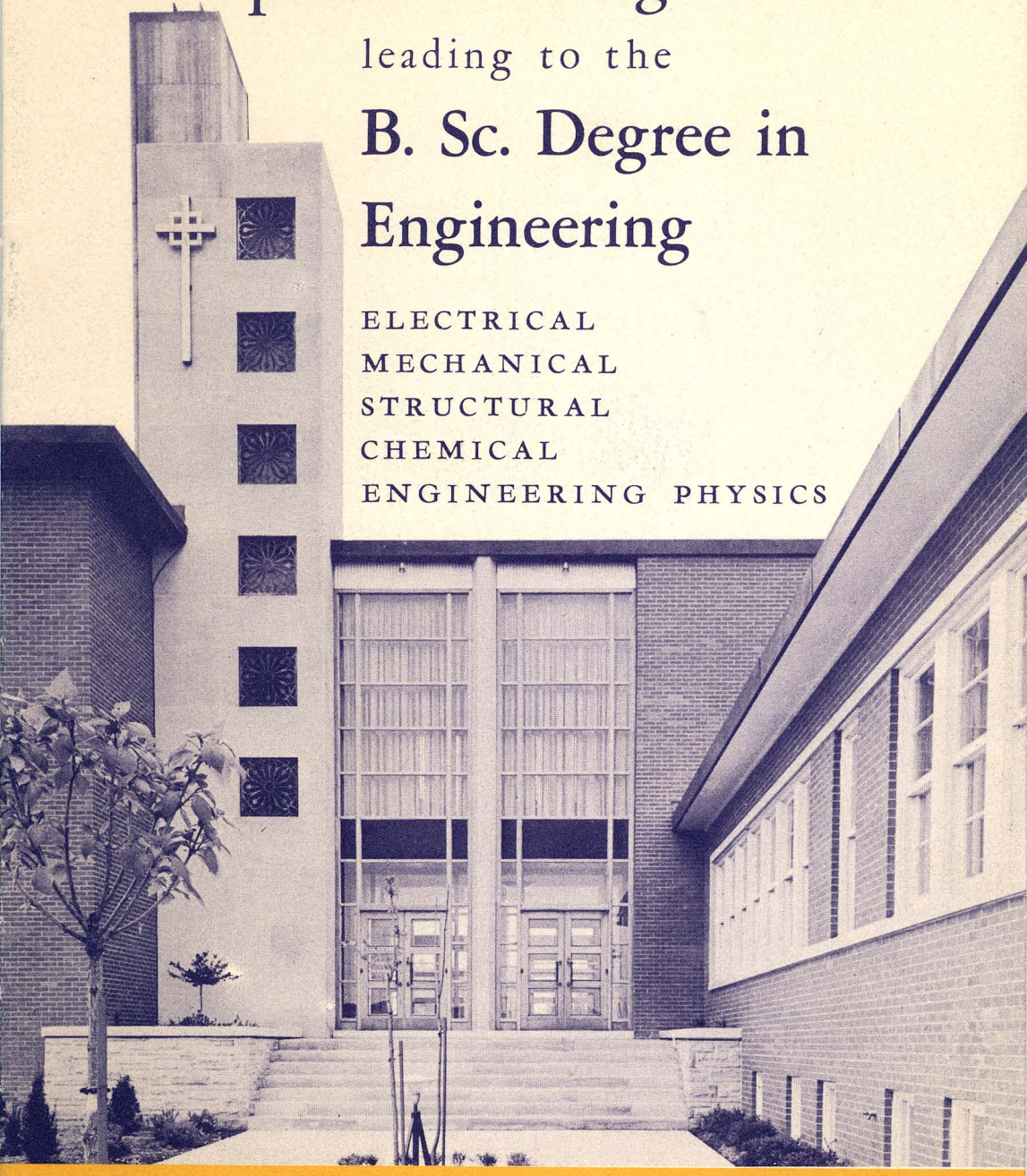
Canada's First

Co-operative College Course

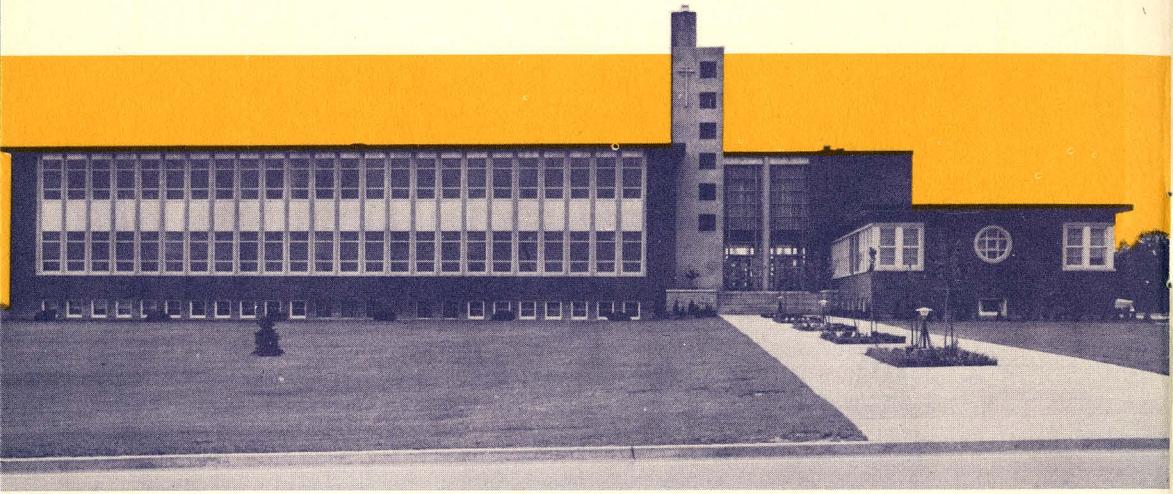
leading to the

B. Sc. Degree in Engineering

ELECTRICAL
MECHANICAL
STRUCTURAL
CHEMICAL
ENGINEERING PHYSICS



WATERLOO COLLEGE
AND
ASSOCIATE FACULTIES



WATERLOO COLLEGE
AND
ASSOCIATE FACULTIES
Waterloo, Ontario

Affiliated with

THE UNIVERSITY OF WESTERN ONTARIO
London, Ontario

For the first time in Canada, a course leading to a professional Engineering degree is being offered on a co-operative basis between a Canadian College and Canadian Industry. This unique plan is now made available at Waterloo College.

It is offered in five branches of engineering study:

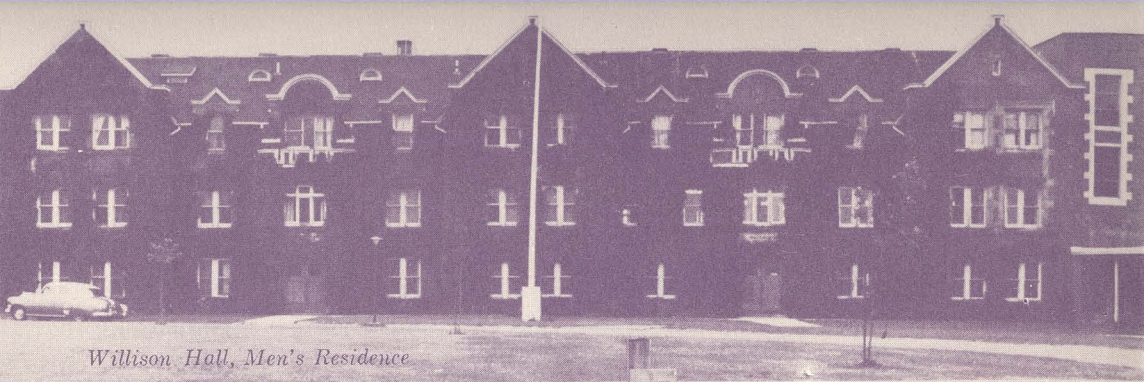
Mechanical Engineering Chemical Engineering
Electrical Engineering Civil Engineering
Engineering Physics

What does "CO-OPERATIVE" *Mean?*

ALTHOUGH Waterloo's course is the first of its kind in Canada, "co-operative education" has been established in other countries for more than fifty years. In the United States it is offered and recommended by leading universities; such as, Cornell, Massachusetts Institute of Technology, Cincinnati, Antioch, Northwestern, and many others.

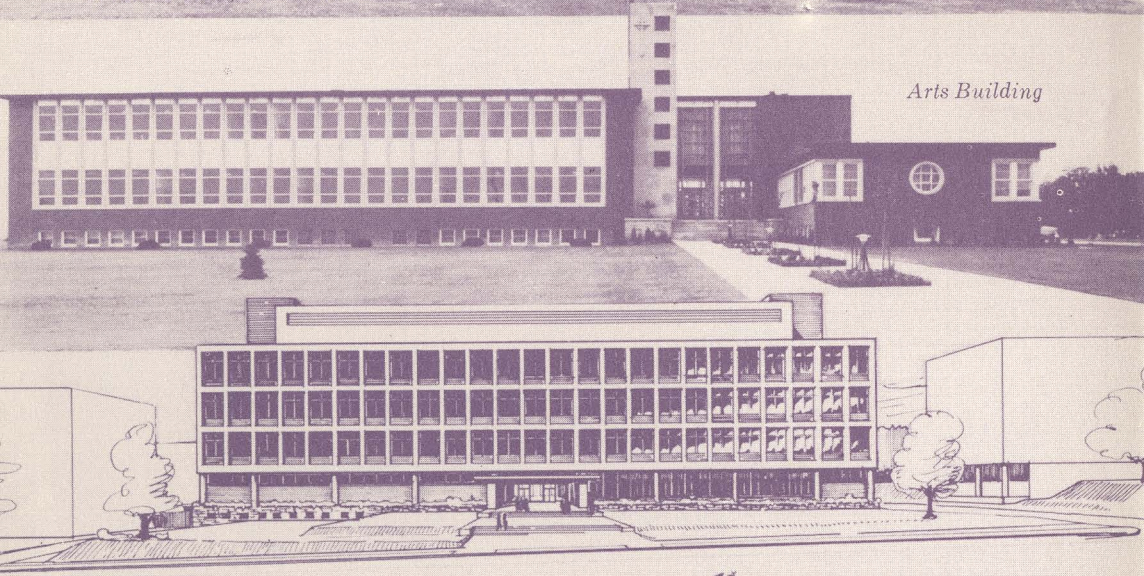
Briefly, the course is based on alternating periods of three months at college and three months of practical work in Industry. This "theory-and-practice" syllabus is followed twelve months of each year, except for two weeks vacation.

Thus, after a class has been at college for twelve weeks, the students are placed in a number of selected industrial plants for practical application and observation. They are at work in fields related to their selected college courses. The "in-plant" work is followed by college co-ordinators and is graded with a satisfactory factory record being required for progress to the succeeding college period.



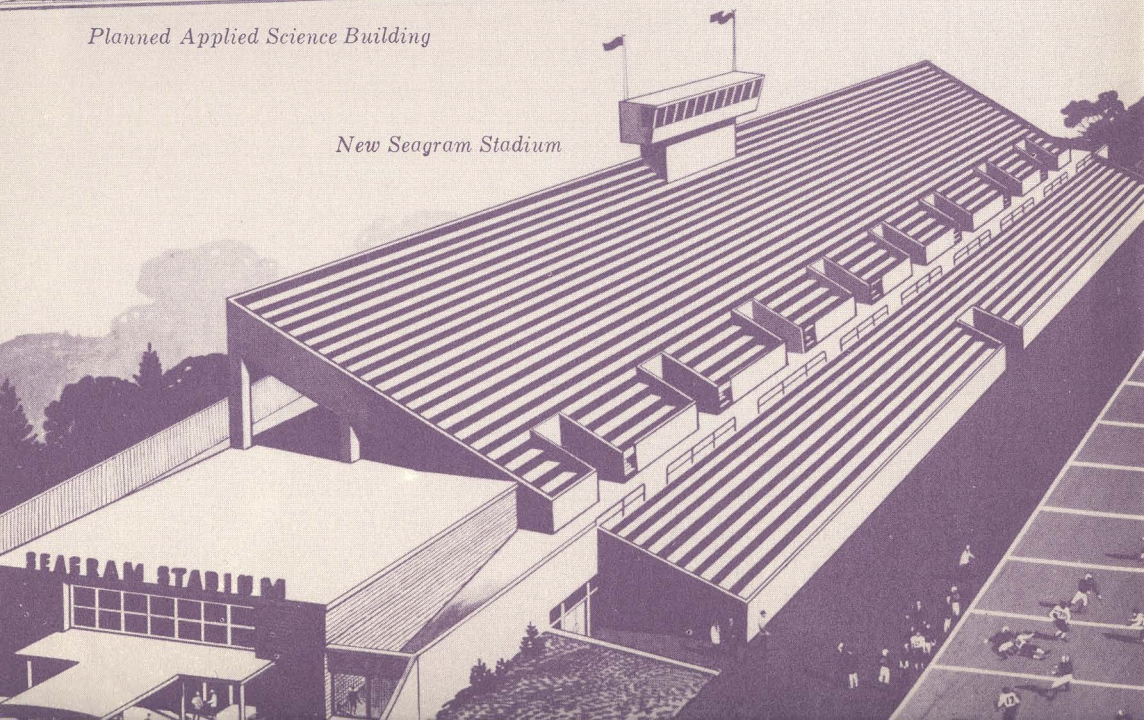
Willison Hall, Men's Residence

Arts Building



Planned Applied Science Building

New Seagram Stadium



Obviously these alternate periods of classroom study and industrial application provide exceptional advantages to students. Students see the practical application of the theory and techniques they have studied in the classroom. They have opportunities to apply what they have learned. They develop a new and keener attitude toward further study. They see the vital need for both a broad general education and deeper knowledge in specific fields. Their earnings during the industrial periods materially help to reduce the cost of a college education.

It is significant that large numbers of students from co-operative courses have continued their formal education in post-graduate courses.

Industry testifies that co-operative students develop mature confidence and judgment at an earlier age. As they proceed through college they build a sound personality foundation, based on an honest understanding of their worth, coupled with a sincere and lasting sense of fellowship toward the many people who help them — professional men and labourers alike. They learn a great lesson that will add to their stature throughout their lives — that getting along with others is a matter of being a "fellow-worker."

Such a programme is only possible through the wholehearted co-operation of Industry and a completely new concept of planning and counselling by the college staff.

Waterloo's Co-operative Applied Science Course is broadly acclaimed by many leaders of Canadian Industry for interesting more young people in a college education. They like the fact that students during college years are given practical training in industry to better equip them for increased responsibilities immediately after graduation. (During Waterloo's six-year Co-operative course, students spend three years working in their selected vocation fields.)

This is only a bare outline of a new (to Canada) approach to careers in Engineering. More detailed information is in this brochure. If you are approaching Grade XII, or have completed it, study this information. Discuss it with your parents and your secondary school principal, vocational counsellor, or employer. It may easily lead to one of the most important decisions of your life!

Scarcely a day passes without news of another advance in science and technology. Canada, with its untapped store of natural resources, challenges the imagination, ingenuity, and ability of its young generation: "Will you equip yourself to help create, design, and build some of the many additional wonders that we still seek through science?"

Description of Course

Waterloo's Co-operative Applied Science Course requires six years beyond Ontario secondary school Grade XII — five years beyond Grade XIII.

The first two years (beyond Grade XII) are called "Pre-engineering Years" because the primary purpose of these years is to adequately prepare students for the intensive and difficult work required of them in the professional course.

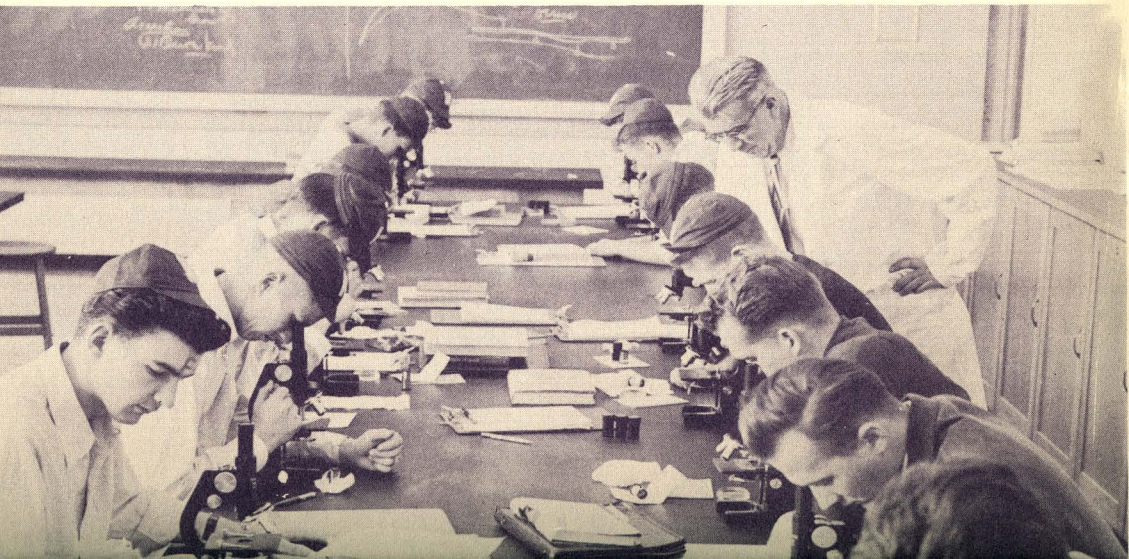
In addition, the pre-engineering years offer the following advantages:

(1) Students gain a knowledge of engineering techniques. This better qualifies them to gain helpful experience in their selected fields during the work assignment periods.

(2) Although students spend only twenty-four weeks in college each calendar year, the extra year gives students in Waterloo's co-operative course more than the college hours available to students in conventional engineering courses.

(3) By providing time for practical application of science in the early years, Waterloo's plan makes the transition from secondary school to a professional course more interesting.

Following is a general description of the subject matter for the pre-engineering years.



Programme of Studies

PRE-ENGINEERING YEAR (1)	*Hrs. per Wk.* *Lecture*	*Lab*	
Mathematics 10 (a & b) (Algebra)	4	0	
Mathematics 18 (a & b) (Trigonometry)	2	0	
English 10 (a & b)	4	0	
Chemistry 10 (a & b)	2	3	
Physics 10 (Quarter 1) (Mechanics & Statics) / Physics 14 (Quarter 2) (Light & Sound)	2	2	
Physics 15 (Quarter 1) (Electricity) / Physics 16 (Quarter 2) (Electronics)	2	2	
Engineering Drawing 21 (a & b)	0	4	
Engineering Techniques 19 (a & b)	0	4	
Applied Physics 19 (a & b)	0	4	
	16	19	= 35

PRE-ENGINEERING YEAR (2)			
Mathematics 12 (Quarter 1) (Analytic Geometry) / Mathematics 24E (Quarter 2) (Calculus)	5	0	
English 20 (a & b)	4	0	
Option (Library Science, English 29, Sociology 28, Language 10, History 14, or Biology 10)	8	0	
Physics 20E (Statics and Dynamics) (Quarter 1) / Physics 23 (Heat and Thermodynamics) (Quarter 2)	3	0	
Engineering Drawing 31 (a & b)	0	4	
Descriptive Geometry 22 (a & b)	0	3	
Engineering Techniques Options 29 (a & b)	0	10	
Physical Education (a & b)	0	2	
	20	19	= 39

ENGINEERING YEAR (1)			
Mathematics 254a, 254b (Calculus)	4	0	
Mathematics 228 (Spherical Trigonometry) (Quarter 1) / 259 (Astronomy) (Quarter 2)	3	0	
Physics 254 (Light & Sound) (Quarter 1) / 255 (Electricity & Magnetism) (Quarter 2)	2	4	
Chemistry 20 (a & b)	2	4	
Geology 20 (a & b)	2	3	
Philosophy 20 (a & b)	3	0	
Economics 20 (a & b)	4	0	
Surveying 29 (a & b)	0	6	
	20	19	= 39

Note: (a & b) represents 1st Quarter and 2nd Quarter.

The four-year engineering curriculum is planned so that students may transfer to conventional four-year courses at other engineering colleges without loss of credits or time.

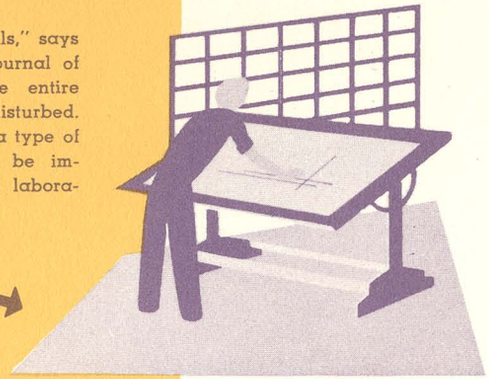
Waterloo plans to extend its engineering course each year, so that students entering the pre-engineering years now may carry their course through to completion on the Co-operative Plan at Waterloo.

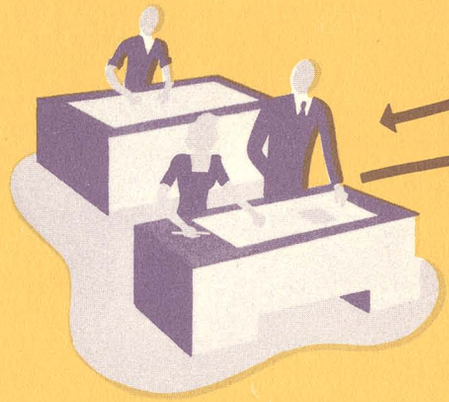
THE COOPERATIVE PLAN AT WORK

Commerce and Industry cooperate: the student has his first opportunity to make application of these fundamental principles in work related to his studies. He adds the discipline of work to the discipline of study.

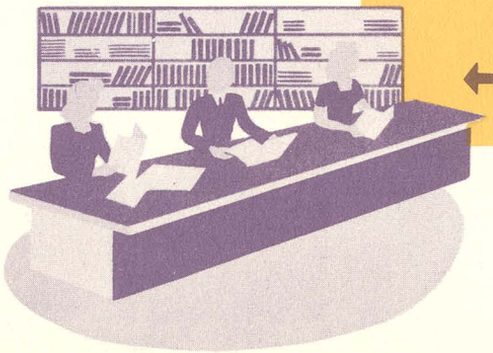
An able faculty instructs the student in the fundamental principles of his chosen profession.

On the job again: "If he fails," says a report published in the Journal of Engineering Education, "the entire manufacturing scheme is disturbed. This forces him to recognize a type of responsibility which cannot be imposed in the classroom and laboratory."





Returning to the College, he begins more extensive study. His proficiency in the classroom is increased and his interest has been heightened. He makes better use of his time in college.



The college-industry cycle is repeated several times. Accomplishment through knowledge as well as knowledge itself is stressed. The cooperative student has come to know some of the ways of people at work . . . how they may lose their tempers, change their minds, be inconsistent. He has a clearer picture of his goal in terms of the work and the professional attainments of others.

THE PURPOSE?

. . . to close the gap between academic theory and industrial practice.

Admission REQUIREMENTS

Secondary School (Ontario Grade XII or the equivalent) Graduation Diploma.

Note: A 60% or better average is required.

Students will be given credit for Grade XIII subjects (60% or better). With nine or more Grade XIII credits, they may enter the second pre-engineering year.

Applications will be accepted only upon receipt of a satisfactory recommendation from the applicant's secondary school principal . . . or employer, if applicant has been out of school for a year or more.

Applicants are required to pass the college admission tests before the applications are accepted.

Tuition and Fees

Tuition for two quarters — one calendar year — is $400.00. This is payable in two equal instalments ($200.00) at the beginning of each college quarterly term.

Athletic, student council, insurance, and miscellaneous fees amount to less than $50.00 per calendar year.

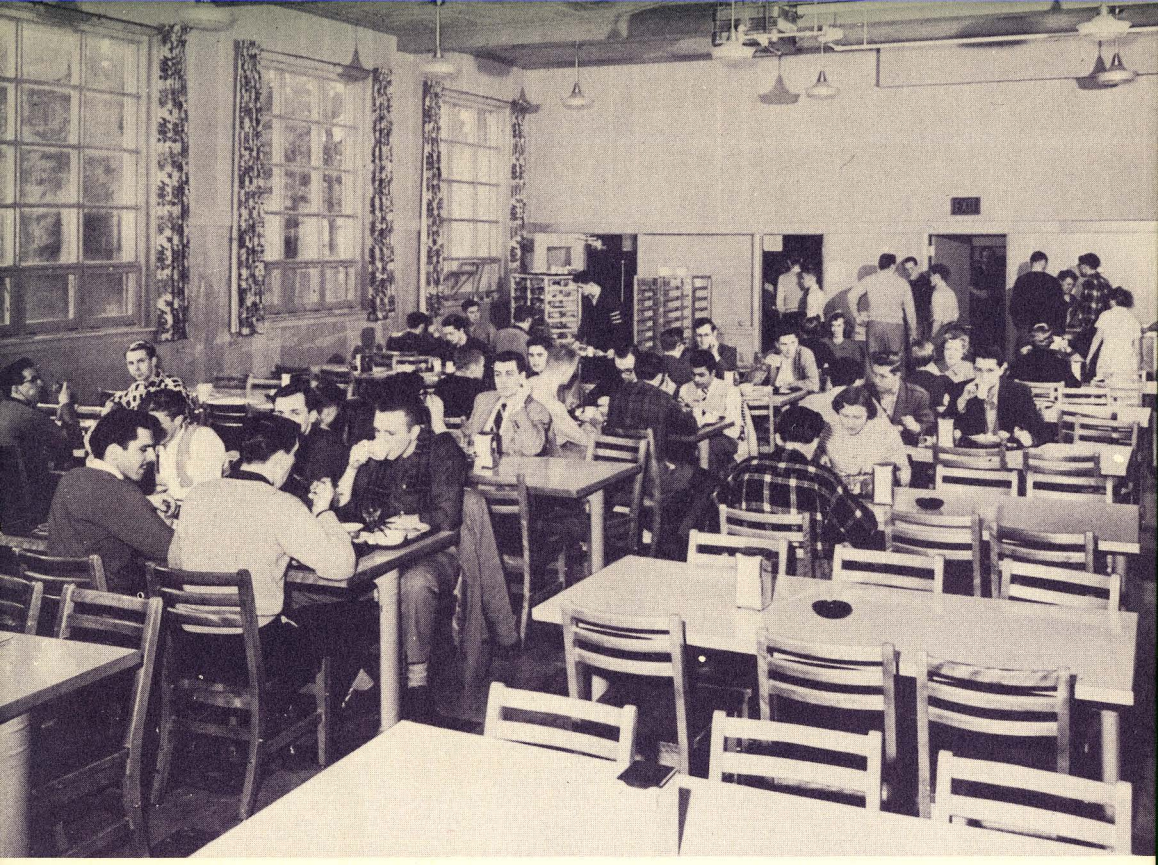
Note: Compensation from the work assignment quarters materially lightens the financial burden of a college education for students in Waterloo's co-operative course.

The possibility of delaying admission until January will give secondary school students time to accumulate money for the first year . . . which is usually the most difficult to finance.

ROOM AND BOARD

A limited number of rooms are available in the college residences — Willison Hall (men) and Conrad Hall (women). Ample accommodation is available for students in nearby private homes. Rooming costs are approximately $5.00 per week.

Excellent meals may be had in the college cafeteria or coffee shop at much less than regular prices . . . $10.00 to $12.00 per week.



WATERLOO COLLEGE

AND Associate Faculties

The City of Waterloo, with its twin city Kitchener, is located in the industrial hub of Ontario — seventy-five miles from Toronto, thirty-five miles from Hamilton, and sixty-eight miles from London.

Waterloo College has an attractive site on a high campus in the northern section of the city whose name it bears.

Development of the area in which the College is located makes Waterloo's beautiful city park virtually an extension of the college campus . . . with the gymnasium and football stadium being built on Parks Board land. Since 1925 Waterloo College has been affiliated with the University of Western Ontario, giving complete undergraduate courses for a Bachelor of Arts degree. Its graduates and associate alumni total more than two thousand.

Its alumni have taken post-graduate studies at most of the large Canadian universities as well as in many U.S.A. colleges. The academic record of the College is favourably established in both Canada and the United States. At present there are four hundred and fifty students enrolled in the Arts faculty. All courses are co-educational. The General Arts curriculum provides for a wide selection of major and minor options. In the Honours courses options are available in Modern or Classical languages, History, English, or Business Administration. Two popular General Arts courses are those with Pre-theological options and with Secretarial Science options. All Arts courses are offered on the conventional plan . . . registration in September only.

The expansion into the Applied Science field is a natural development on Waterloo's campus. The availability of its new course on a co-operative plan has given it an immediate acceptance. Both students and Industry have quickly seen the advantages of this practical type of higher education. The result is that the College has been required to limit enrolment . . . even for the first year in which the co-operative course will be offered. Applications will be accepted according to the qualifications of the applicants and the dates on which they are received.

DIVISION OF APPLIED SCIENCE

ENQUIRY FORM (not a formal application)

Name in Full _____

PLEASE PRINT

Address _____

Telephone _____

EDUCATION: Highest Secondary school grade completed _____ Date _____

High School _____

Technical School _____

Other Schools _____

WORK EXPERIENCE

_____

_____

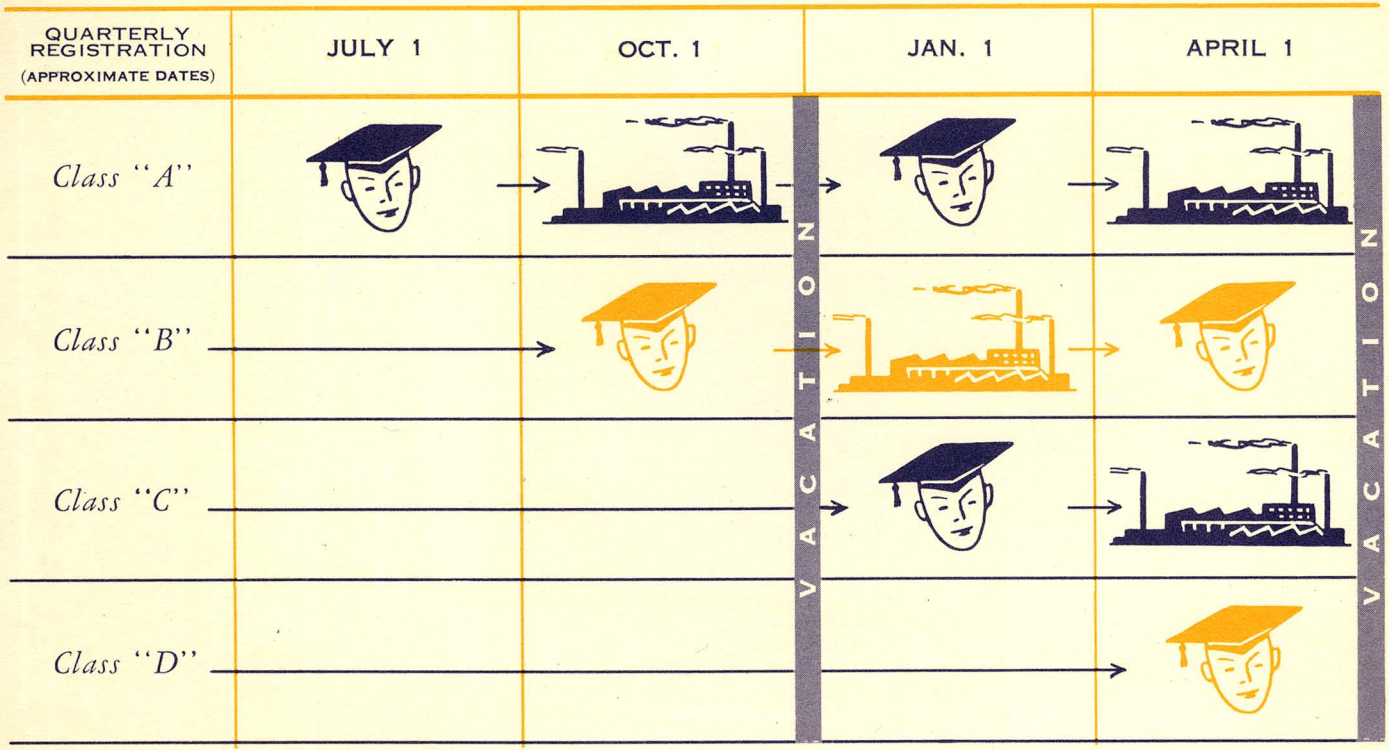
PLEASE SEND APPLICATION FORMS

Waterloo Band Festival
a famous annual international event.

Waterloo Park scene.

Waterloo Park scene.

THE WATERLOO COLLEGE CO-OPERATIVE COURSE



1. Students may start in any quarter.
2. Students are paired and alternate in college and in industrial assignments.
3. Industrial assignments increase in scope and responsibility to match college progress.
4. Students receive normal industrial remuneration during the co-operative employment period.
5. There will be a wide variety of employment opportunities.
6. Students will graduate as experienced engineers.

FOR DETAILS OF REGISTRATION
APPLY
THE REGISTRAR
WATERLOO COLLEGE
WATERLOO, ONTARIO