



CALVIN COLLEGE

The college of the Christian Reformed Church

This is a catalog of programs conducted on both campuses of the college in Grand Rapids, Michigan. A supplementary catalog for the 1969-70 interim courses will be issued in the Fall of 1969.



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1969

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The college year, 1969-70

The Fall Semester

SEPTEMBER	2	Tuesday	Faculty-Board conference
	3	Wednesday	Residence halls open
	4-6	Thursday	Freshman orientation
		Saturday	
	4-5	Thursday-Friday	Sophomore, junior, and senior registration
	6	Saturday	Freshman registration
	8	Monday	Classes begin, 8:00 a.m. (8:30 Franklin)
			Convocation, 11:00 a.m.
			Knollcrest campus classes resume, 1:00 p.m.
			Franklin campus classes resume, 1:30 p.m.
			Final date for course and section changes
			Reading recess
NOVEMBER	16	Tuesday	
	3-4	Monday and Tuesday	Final date for dropping courses
		Friday	Thanksgiving recess begins, 5:00 p.m.
	14	Wednesday	Classes resume, 8:00 a.m.
	26	Monday	Final examinations begin, 8:00 a.m.
DECEMBER	1	Saturday	First semester ends, 5:00 p.m.
	13	Thursday	Christmas vacation begins
	18		

The Interim

JANUARY	7	Wednesday	Interim term begins, 8:00 a.m.
	29	Thursday	Interim term ends, 5:00 p.m.

The Spring Semester

FEBRUARY	2-3	Monday and Tuesday	Registration for second semester
		Wednesday	
	4	Friday	Second semesters begins, 8:00 a.m.
	13	Friday	Final date for course and section changes
MARCH	20	Friday	Spring vacation begins, 5:00 p.m.
	31	Tuesday	Spring vacation ends, 8:00 a.m.
APRIL	15	Wednesday	Final date for dropping courses
MAY	18	Monday	Final examinations begin, 10:00 a.m.
	23	Saturday	Commencement

The Fall Semester

SEPTEMBER	8	Tuesday	Faculty-Board conference
	9	Wednesday	Residence halls open
	10-12	Thursday	Freshman orientation
		Saturday	
	10-12	Thursday-Saturday	Registration
		Monday	Convocation; classes begin



THE COLLEGE *and* ITS OBJECTIVES

History

CALVIN COLLEGE is a college of the Christian Reformed Church. The Christian Reformed Church is a century-old church with a century-old heritage. It bases its whole faith and life on the sacred Scriptures, God's holy, inspired, infallible Word, and thus takes its stand with the churches which have their roots in the Protestant Reformation.

In America, the Christian Reformed Church traces its origin to a band of immigrants who sought freedom in the nineteenth century from the established church of the Netherlands. They settled in western Michigan, and, after an early period of religious unrest among the thousands of Dutch settlers who soon joined the earlier immigrants, organized the Christian Reformed Church in 1857.

The Christian Reformed Church subscribes to three statements of faith (in addition to the early Christian Apostolic Creed), which stem from the Reformation period: the Heidelberg Catechism, which is the most famous and widely translated of all Reformation creeds; the Confession of Faith, written by the Belgian theologian, Guido de Brès, in 1561; and the Canons of Dordt.

The Christian Reformed Church stresses the sovereignty of God in every part of life—in the family, the church, the state; in world affairs; in economic, social, and political life; in business; and in education and the arts.

The founding date of Calvin College and Seminary is 1876. In that year the Christian Reformed Church adopted a six-year curriculum for ministerial training. The first four of these years were spent in the Literary Department, and the last two in the Theological Department. In 1894 other than pre-theological students were admitted to an expanded curriculum, and thus the school became a type of preparatory school or academy. In 1900 the curriculum was further broadened and made more attractive

to students interested in teaching or in preparing for preprofessional courses in the universities. By 1906 the Literary Department, which provided the four years of preparatory and two years of college work, became known officially as the John Calvin Junior College. The two-year college in time became a four-year college, and the preparatory department was discontinued. In 1921 Calvin College awarded its first Bachelor of Arts degree.

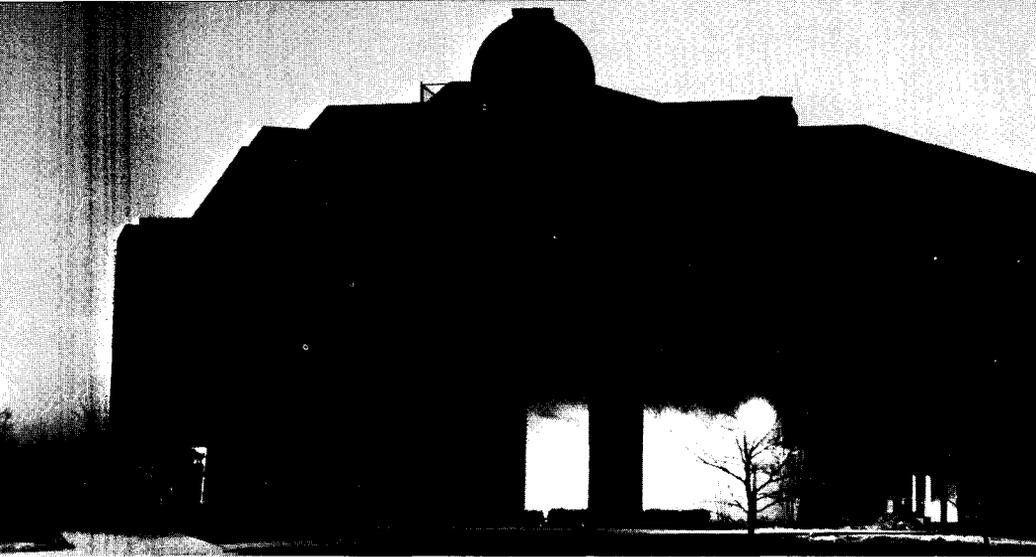
The school which had started with seven students grew slowly during the early years, but by 1930 it had reached its pre-World War II size of 350-450 students. By 1950 the enrollment had climbed to 1,270 and last year reached 3,575.

In 1961 the college began the development of a new campus site. The college still occupies the Franklin Street campus for use by some of the upper division classes, but the center of academic activity is gradually shifting to the new Knollcrest campus. Most student housing is there. The Library-Classroom Building, the Fine Arts Center, the Physical Education Building, a Science Building, and the Student Commons are at the heart of the new campus. A major addition to complete the Library Building is under construction.

Aim and purpose

Calvin College aims to give young people an education that is Christian in that it is governed by the Christian faith as reflected in the Reformed standards. The arts and sciences cultivate, in the student, value-judgments related to a thorough knowledge of facts about man's relationship to God, to himself, to his fellowman, and to the world. The Christian faith is the





dynamic motivating an investigation of all fields of human knowledge revealed by God in His Word and in His world. The student is led to offer his whole creative, imaginative, intellectual, and social enterprise eagerly and earnestly in the service of God and of his fellowman, thereby acknowledging the lordship of Christ over all things. Thus, the college seeks to promote in the student sound scholarship, earnest effort, and a sense of obligation to use his talents fully, in response to a calling.

The end of Christian faith is Christian life. Informed and mature faith calls for a life of action and involvement. It seeks personal piety, personal integrity, and social responsibility. It recognizes that service to God and to fellow man is possible and necessary in all professions and all walks of life. It asserts that the life of Christian service must be lived now. Accordingly, at Calvin College many opportunities are provided for students to apply their learning to Christian action and service. Some of these are in the formal academic setting, some are voluntary in the broad urban community which surrounds the college, others include involvement in the churches of the area.

Government

The corporate name of the college is CALVIN COLLEGE AND SEMINARY. It is governed by a single board of trustees, which represents the ecclesiastical divisions of the church, arranged on geographical lines. Internally, the administration, the staff, the student body, and the physical facilities of the college and seminary are completely separate and independent. The membership of the board is constituted of ministers elected by the various classes and approved by synod, and laymen elected by synod. The board of trustees meets in February and May of each year. An executive committee,



which meets on the second Thursday of each month, functions for the board throughout the academic year.

Calvin College, in accordance with Title 6 of the Civil Rights Act of 1964, operates in a non-discriminatory manner with regard to race, color, or national origin.

Accreditation

Calvin College is fully accredited by the North Central Association of Colleges and Secondary Schools. It is also accredited by the American Chemical Society and by the National Council for Accreditation of Teacher Education. It is on the American Association of University Women list of institutions qualified for membership in the association. It maintains membership in the American Council on Education, the Association of American Colleges, American Association of Colleges for Teacher Education, College Entrance Examination Board, National Education Association, and the American Mathematical Society.

Alumni Association

The Calvin Alumni Association is composed of all students who have studied one year or more, or have completed at least twenty-four hours of course credits at Calvin College or at Calvin Seminary, and all faculty members of these institutions. The purpose of this association is to provide an avenue whereby the alumni can indicate their attitude of continued loyalty to Calvin College and Seminary, and to demonstrate this loyalty concretely by performing appropriate services in response to the needs of the school.

The Calvin Alumni Association is governed by a council composed of the executive board and representatives of the alumni chapters. The council meets during the first week in June. The executive board meets five times a year to review the work of the full-time coordinator of alumni relations, make suggestions for the alumni program, and make final decisions on activities suggested by the coordinator.

The Alumni Association maintains an office in the administration building on the Franklin campus where all records are maintained and the business of the association is conducted.

Psychological Institute

The Calvin Psychological Institute was established in 1964 to provide facilities for the expansion of instructional activities, particularly for the departments of psychology and education, and for research by faculty members and advanced students. The institute provides psychological, educational, and occupational guidance services to the Calvin College student body, to Christian schools, and to individual clients. The institute is housed in the Professor Johannes Broene Center.

The staff of the institute is composed of members of the Psychology and Education departments and certified educational and psychological specialists. The services of consultants from the professions of medicine, psychology, and education are utilized.

The institute does not aim at long-term treatment for severely emotionally disturbed or retarded individuals. Rather, the main task of the various guidance services is conceived to be guidance in milder emotional and social problems, learning problems, and vocational problems.



STUDENT LIFE *and* REGULATIONS

THE AIM OF CALVIN COLLEGE is to prepare students to live productive lives of faith to the glory of God in contemporary society. Not merely lives that have a place for religion, or lives which formally relate religious commitment to the academic disciplines, but lives which in every part, in every manifestation, in their very essence, are Christian. Accordingly, the college attempts through its rules, its organizations, and the counsel of its personnel, to show the student how a life of commitment is lived in his room, on the athletic field, in his academic work, and in his daily religious practices. This matter of being totally Christian cannot be deferred until graduation. Confrontation with the secular world, cooperation with Christians in common cause, and the development of personal expressions of faith must be part of current college life. This being in the world while not of it, this testing of the spirits, whether they be of God or not, this searching, seeking, learning, trying—this is the business of Christian education at Calvin.

Worship and Christian service

All students are expected to worship regularly at a church of their choice. During the first two months of their residence at the college, out-of-town students are expected to affiliate with a local congregation either by a transfer of membership or by affiliation through student certificate. Sunday worship services are also held on the Knollcrest campus under the auspices of four local consistories. Students are encouraged to avail themselves of the counseling services of the local pastors or the college chaplain.

Chapel services are held on both campuses on Wednesday and Friday at various hours. Students are assigned a chapel hour and are required to attend chapel twice a week. In addition there are many opportunities for

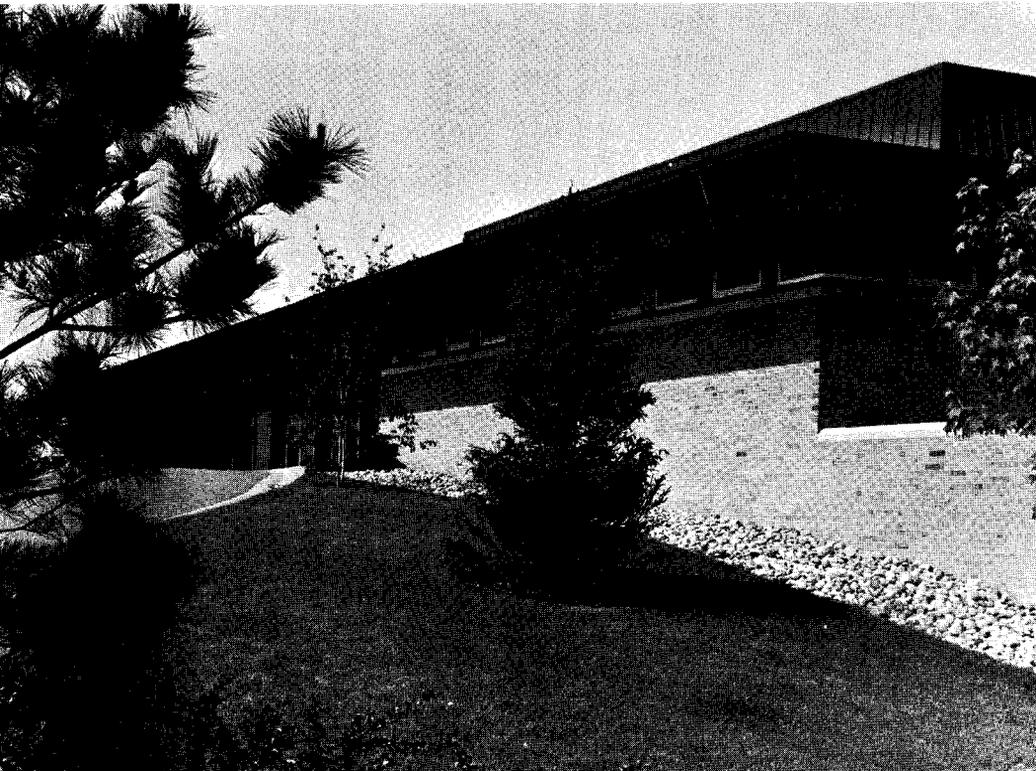
voluntary religious activities. Bible study groups, student prayer groups, Christian service activities, and evangelistic outreach are a few of these voluntary programs. This part of campus religious life is supervised by the Student Religious Council and the college chaplain. The latter is available for counsel at any time.

Athletics

The program of required physical education is organized to promote physical fitness, to introduce students to a variety of sports programs, and to create sufficient skill and interest so that they will continue to participate voluntarily. Accordingly, facilities for both indoor and outdoor recreational facilities are conveniently and freely available. The intramural program is extensive throughout the entire year, with competition organized around sports clubs which may be based on residence units, or class groups. Calvin participates in most inter-collegiate sports except football and is a member of the Michigan Intercollegiate Athletic Association (MIAA) composed of Albion, Alma, Adrian, Hope, and Olivet colleges.

The fine arts

Many sorts of fine arts activities thrive at Calvin both as part of the academic life and as the result of spontaneous student interest. Bands, orchestras, choral groups, and chamber ensembles are part of the program



of the Department of Music for the participation of all qualified students. The dramatic productions of the Thespians as well as intercollegiate debating and other forensic activities are sponsored by the Department of Speech. Students from all departments participate. The long Calvin tradition of creative writing for publication and for private reading is encouraged by the members of the Department of English. The *Dialogue* and the *Chimes* provide opportunities for student publication. The enlarged Department of Art is creating excitement in the various graphic and plastic arts. Student creative work in all fields is presented at an annual Fine Arts Festival in the spring.

For students less interested in participation than in appreciation the student council provides a program of speakers, of fine films, and of other entertainment. Other public performances sponsored by various academic departments, by the alumni association, and by community groups are also presented on campus frequently. The four-thousand-seat physical education building, the thousand-seat auditorium in the Fine Arts Center, and the hundred-seat Swets Choral Room have become centers for these activities.

Housing

As a matter of policy the college requires all students to live in college residence halls, private housing inspected and approved by the college, or at home. Accordingly, all freshmen and sophomore students must live in college-owned housing and board at college dining halls or live with their parents. There is some range of housing fees, depending on the numbers of students in a room and on the location. Housing information is available from the College Housing Office.

All other students must live in college-approved, off-campus housing. The list of approved rooming places is available at the Housing Office. Rents are typically \$6 to \$7 a week per person and are paid through the college. Seniors and other students at least 21 years of age may be permitted to live in college-approved apartments. Sophomore, junior, and senior women may work for their room and board. Approved homes are listed at the Housing Office.

Student government and other student organizations

Elected from class and departmental nominations, the forty-five member student senate has an important role in the life of the college. Not only does it serve as the official voice of the student body, but it governs most students activities. It controls the student activities budget and concerns itself with student publications, WCAL, homecoming, the film arts council,



and similar groups. Some of its members also serve on joint faculty-student committees, particularly the Student Social Activities Committee, the Student Religious Activities Committee, the Communications Board, and the Faculty Evaluation Committee.

All residence halls have their own governing councils and judiciary committees. These units work in cooperation with the staff members to enhance community life in the halls.

Numerous clubs and societies exist on campus, many of which are related to particular academic departments, such as education, psychology, and sociology. There are also many volunteer service groups which attract student participation, such as KIDS (Kindling Intellectual Desire in Students), an organization of Calvin students that supplies teachers' assistants, "big brothers" for the local courts, and tutors for high school students from depressed areas.

All organized clubs or similar groups must have formal approval and sponsorship.

Orientation for new students

All new students are required to participate in a program of orientation held just prior to each registration. At that time they will meet a number of faculty members as well as administrators, including the college president,

the vice presidents, and deans. Information about college activities and facilities, and the distribution of registration materials are a part of the orientation program. Upperclassmen serve as orientation leaders for small groups of new students. The schedule and information are mailed to new students during the month before registration.

Maintenance of college standards

Admission to Calvin College is a privilege that may be withdrawn from any student who does not meet the academic standards of the college. In addition, the college not only expects a student to conduct himself both on and off campus in accord with his profession of religious commitment as he has indicated it in the application forms, but the college may refuse admission to, may discipline, or may expel any student who in its judgment displays conduct or attitudes unworthy of the ideals and standards of the college.

Faculty advising

At his first registration a student will be assigned a faculty counselor, generally from the department or area of his greatest interest. A student may remain assigned to this faculty counselor for his entire college career but, if his interest changes or if for any reason he wishes another adviser, different assignments will be made. The student's faculty counselor not only will advise him on his academic program but will be concerned with the student's personal and religious development and will recommend any personality or vocational testing that seems appropriate. When necessary, he will refer the student to other services of the college, including the Psychological Institute. Program changes, including the dropping of courses, must be approved by the faculty counselor.

The college chaplain, the deans of students and, in fact, any faculty member or administrator, will welcome conversation with any student and will seek opportunities to be of assistance.

Health services

The college provides limited medical services for all students. This is maintained by a fee incorporated in the tuition charge. The health center, located on the ground floor of the Franklin Dormitory, is maintained by a full-time nurse and by several consulting physicians who hold office hours each morning. The service is limited to out-patient treatment. All serious medical problems will be referred to the student's family physician, in the case of local students, or to a physician of the student's choice.

A Group Accident and Sickness Expense Protection Plan is available to all students on a low-cost, voluntary basis and all students not covered by similar plans are strongly urged to participate. Married student family plans are also available. Detailed information is available in the Business Office.

The college is not liable for injuries sustained by students in their activity as students, even though such injuries occur on college premises, in laboratory work, or in physical education classes. The college does not undertake to be the insurer of its students and its liability under law must be based on fault. It is necessary, in order to establish the liability of the college for such injuries, not only to prove negligence or carelessness on the part of the college, but also to show that the student was free from any negligence or carelessness which might have contributed to the injuries. Accordingly, students are advised to be certain that they are covered by personal health and accident insurance.

Use of automobiles

Automobiles owned or operated by Calvin students must be properly registered in the Parking Office and must carry an official college automobile permit. Permits may be refused for academic or financial deficiency. Automobiles may be parked only in approved student parking areas and the drivers will be fined if they are parked elsewhere. Because parking areas are limited on both campuses, parking regulations are enforced stringently.

Graduate placement and fellowships

The college maintains a series of services for graduating students to assist them in securing fellowships to graduate school, teaching positions, and career placement.

The Teacher Placement Bureau, administered through the Department of Education, assists graduates in securing teaching positions. All seniors and graduates of the college who have completed the requirements for teacher certification are eligible for this service without charge but must file all the appropriate data with the bureau to secure the service. Such material is made available to any interested school.

The Student Personnel Office maintains a directory of prospective employers seeking college graduates and makes known through the *Intra-Campus Bulletin* the times when such organizations will interview students.

Various graduate school and graduate fellowship programs are supervised by the coordinator of graduate fellowships. The broadest of these is

the Michigan Scholars in College Teaching program which attempts to identify early and encourage students of promise who are interested in college teaching. This program is administered cooperatively by five Michigan liberal arts colleges and the University of Michigan. Students who show outstanding promise are eligible for graduate fellowships. A number of competitive national fellowships are available to Calvin seniors and information on these is also available through the coordinator. These include the Woodrow Wilson fellowships, the Danforth Foundation fellowships, the Rhodes scholarships, the Marshall fellowships, the National Science Foundation fellowships, the various Fulbright grants, and many others. The conditions for these grants vary from year to year as do the deadlines. For most of them, however, application must be made early in the fall and students are advised to take the Graduate Record Examination at the earliest possible date.



Complements

1) D'objet

2) D'attribut

à complément

etc.



ADMISSION *and* ACADEMIC REGULATIONS

Admission

In selecting students for admission, Calvin College naturally looks for evidence of Christian commitment and for the capacity and desire to learn. Although the prospect of academic success is of primary consideration, the applicant's aspirations, the recommendations of his pastor and school, and the particular ability of Calvin to be of service to him will be considered.

All application forms received by the Office of Admissions later than May 1 must be accompanied by a \$10 late registration fee; no application will be considered after June 15. (The late registration fee must accompany second semester applications received after November 15 and none will be accepted after January 1.)

The following documents must support each application:

1. **SCHOLASTIC RECORD** The applicant's previous education must be reflected in a transcript from an accredited secondary school which shows the satisfactory completion of fifteen units of work and the school's appraisal of the candidate. (A unit is the equivalent of five class hours a week for thirty-six weeks in one branch of study.) These fifteen units must include three units of English as well as a three-unit major sequence and two two-unit minor sequences chosen from a single foreign language, the mathematics-physics area, the natural sciences (excluding general science), and the social science area. The remaining units may be selected from those which count toward graduation in an accredited high school, but the Office of Admissions has the ultimate right of rejection. Candidates intending to follow the pre-seminary program are advised to complete a minimum of two units of Latin. Those intending to major in engineering, mathematics, or physics should complete four units of mathematics, if possible.

2. REPORT OF THE COLLEGE ENTRANCE EXAMINATION BOARD TESTS The Scholastic Aptitude Test of the College Entrance Examination Board is required of all freshman candidates. The test is given, normally, six times a year throughout the world—November 1, 1969; December 6, 1969; January 10, 1970; March 7, 1970; May 2, 1970; and July 11, 1970. Application forms are generally available from high school principals, but may be secured by students living east of the Rocky Mountains from the College Entrance Examination Board, Box 592, Princeton, New Jersey 08540. Application should be made at least four weeks prior to the date of the test. Those who live in the Rocky Mountain states or farther West, including students in Western Canada and in foreign countries of the Pacific areas, should apply a month in advance to the College Entrance Examination Board, Box 1025, Berkeley, California 94701.

Applicants for scholarships should take the test in November or December in order that the results may be available for the Scholarship Committee early in January. All candidates for September admission are strongly urged to take the test at the earliest convenient date.

3. APPLICATION FOR ADMISSION

4. PERSONAL RECORD

5. PASTOR'S RECOMMENDATION The general policy of the college is to admit students who are affiliated with orthodox Protestant Christian churches.

6. HEALTH RECORD All candidates must present evidence of a complete physical examination. Chronic physical or psychological problems should be clearly indicated to enable the College Health Service to function intelligently on the basis of full information. However, the college cannot be responsible for the continuing treatment of injuries or disabilities incurred by a student prior to matriculation.

MODEL HIGH SCHOOL PROGRAM

High school students should recognize that the quality of their high school education will determine the ease with which they will do college work and their ability to follow certain courses of study. Beginning in 1969, the nature and quality of a student's high school preparation may reduce his college graduation requirements. (See pages 42-44). Although in general narrow specialization is not desirable in high school, at least two years of Latin are recommended for those intending to become ministers and four years of mathematics for those with a professional interest in engineering, mathematics, the sciences.

English	4 units	
Mathematics	3 units	An additional unit is desirable for prospective mathematics, physics, or preengineering majors.
Foreign language	2 units	Preferably three; ideally the last unit in grade 12; prospective ministers should complete two or more units of Latin.
Science	2 units	Biology, chemistry, or physics; one with a laboratory.
History	2 units	
Typing		
Electives	3 units	
	<hr/>	
	16 units	Additional units are desirable for students with special interests.

A student will be notified concerning admission as soon as all six application documents have been received by the college and, if he is admitted, he will be given an admission card with his permanent student number, which must be presented at registration. Scholastic Aptitude Test results are usually reported three to four weeks after the tests are taken. Prospective students from outside the Grand Rapids area must make arrangements for room and board through the Office of Housing.

Admission under special circumstances

The college is eager to serve any prospective student, including those with irregular academic histories who show promise of benefiting from a college education. Applicants who are at least twenty-one years of age but have not completed high school or its equivalent may be admitted on probation provided they have successfully completed the General Educational Development Test and submit satisfactory scores on the Scholastic Aptitude Test.

Applicants who have not met the requirements as to prescribed high school work or as to the distribution of that work may be admitted provisionally. The deficiency, however, must be removed before the end of the first year of residence. Applicants are strongly urged to make up any deficiency during the summer preceding their enrollment as freshmen. In many cases these deficiencies may be removed by attending the summer session at Calvin College.

Some applicants with weak high school records may be admitted on academic probation because of other evidence of academic promise. Such students will receive special counsel and are advised to restrict sharply their involvement in employment, in social life, and in campus activities. Applicants who meet all of the requirements for admission but who do not desire to become candidates for an academic degree may be enrolled as special students for such studies as their preparation qualifies them.

Admission of foreign students

Calvin College is approved by the U.S. Immigration and Naturalization Service as an institution of higher education for the training of non-citizens who are in the United States on student visas. Such prospective students should apply for admission early in the fall of their last year in high school, following the general procedures given above. The Scholastic Aptitude Test is given in foreign countries but is not required of students presenting a Senior Matriculation Certificate or who transfer from another college or university having earned at least one semester of credit.

When such an applicant is accepted for admission he will be sent a formal letter of admission by the co-ordinator of admission and a copy of the required I-20 form. The prospective student should make application immediately with the American Consul in his area for a student visa.

Applicants from non-English speaking countries must demonstrate an adequate command of the English language. This can be done by passing either the English Test administered by the English Language Institute of the University of Michigan, Ann Arbor, or the Test of English as a Foreign Language administered periodically throughout the world by the Educational Testing Service of Princeton, New Jersey.

Admission to nursing program

Candidates for the joint nursing program of Calvin College and the School of Nursing at the Blodgett Memorial Hospital must apply for admission to the college as outlined above and must also apply to the Director of the School of Nursing, Blodgett Memorial Hospital, 1840 Wealthy St., Grand Rapids, Michigan 49506. Completed forms for both applications should be submitted during the early part of the candidate's senior year in high school. The candidate must be accepted by both the college and by the admissions committee of the School of Nursing.

Readmission

Former students of the college and applicants who previously had been given papers entitling them to admission but who did not register must make formal application for readmission. Applications for the fall semester after July 1 and for the spring semester after December 1 must be accompanied by a late application fee.

Advanced standing

Students transferring from other colleges or universities must follow the same procedures of applying for admission as freshmen, but they are not required to sit for the Scholastic Aptitude Test. They will receive credit for work done in accredited institutions provided the courses were of an academic nature, the grades were median C or higher, and the student received an honorable dismissal. However, not more than sixteen credit hours for each semester in attendance will be accepted. No more than seventy semester hours of advanced credit will be allowed for work at an accredited junior college. Furthermore, no matter how much work at other institutions may be accepted, in order to graduate from Calvin a student must complete a full academic year in residence.

A maximum of three course credits or nine semester hours will be allowed for courses taken by correspondence from accredited colleges and universities. Courses taken in residence at other accredited institutions are accepted, provided they have been approved by the registrar in advance. In no case, however, will work in a junior college be accepted after a student has accumulated more than twenty units of credit at Calvin.

Veterans will receive credit, as recommended by the American Council on Education, for liberal arts courses taken through the USAFI and for a maximum of nine semester hours taken by correspondence courses from accredited universities in the program.

Entering freshman students, at the time of admission, may be given limited advanced college credit for certain courses. The candidate must formally apply for advanced credit and may justify his request in any of four ways: he may submit satisfactory scores on any one of the Subject Examinations of the College-Level Examination Program administered by the College Entrance Examination Board; he may submit a grade of 3 or higher on the Advanced Placement Examination of the College Entrance Examination Board; he may submit up to two course units (or six credit hours of credit) from an accredited high school for college-level work completed after graduation; or he may pass special departmental examinations at Calvin College.

In some cases students may be given advanced standing in some particular field of study, with perhaps an excuse from a given course, without being given college credit for work previously done. Such advanced standing does not excuse a student from any of the general graduation requirements of the college.

Enrollment in seminary classes

College students may, as part of a program worked out with their departmental advisors, carry up to two courses in the seminary in any one semester. Approval by the registrar of the seminary and the registrar of the college is required, and under no circumstances may credit for a single course be counted toward degree programs in both the college and seminary. Seminary students may enroll for not more than two courses in the college provided the dean of the seminary and the college registrar approve.

Student load and classification

The typical student load is four courses a semester. The normal load, however, may range from three to four and a half courses with courses in applied music, drama, and speech and in required physical education not included in the maximum. A semester's participation in applied arts courses

carries one-quarter course credit, but not more than two courses credits thus acquired may be applied toward graduation, except for music majors in certain applied music concentrations.

In exceptional cases a student may apply to carry more than four and a half courses; such an application requires the recommendation of his academic adviser and the approval of the dean of the college.

Students with a minimum of seven courses completed will be classified as sophomores; those with sixteen, as juniors; and those with twenty-five, as seniors.

For the purposes of conversion, a course is considered to be equivalent to 3.5 credit hours.

Grading systems

Grades during the regular semesters are designated by the letters A, excellent; B, good; C, average; D, just passable; and F, failure. Provisional grades of I, incomplete, and X, absent from examination, are temporarily averaged as F and become F permanently, for students in residence, if not removed within a calendar year. The initiative for the removal of I and X grades rests with the student. Courses with grades of D or F may be repeated once with both grades included in the student's record.

For purposes of averaging grades, the following numerical values or grade points are assigned to each of the above grades: A, four points per course; B, three; C, two; and D, one. A plus grade is computed at three-tenths of a point above these figures and a minus grade at three-tenths below. Grades for courses completed at other colleges and universities are recorded on the student's record but are not used when computing the student's average at Calvin.

Ordinarily grades for the interim are H, honors; S, satisfactory; and U, unsatisfactory, do not carry honor point values, and are not averaged in the student's total record. The provisional grades of I and X become U automatically in a calendar year if they are not removed. A few courses normally offered during either semester, when taught during the interim, will be graded in the traditional letter system and will be included in the student's average.



A grade of W (withdrawn) will be recorded if a student leaves a course for any reason with the official approval of his faculty counsellor, his instructor, and the registrar before November 15 of the first semester or April 15 of the second. Only under unusual circumstances such as poor health or death in the family may students withdraw officially from courses after these dates. Under these circumstances, grades of WP (withdrawn passing) or WF (withdrawn failing) will be recorded. Students merely doing unsatisfactory work or not attending classes are not eligible for these grades. If a student officially withdraws from school with the approval of the dean of men or the dean of women and of the registrar, he will be given a grade of W in all courses and his parents will be notified.

Any student found guilty of dishonesty in any examination or test or in written work of any character will be given F for the course and will be subject to disciplinary action.

Honors, probation, eligibility

Full-time students with an average grade of A- (3.50) or higher for any semester will be placed on the Dean's List. Students with cumulative averages below C (2.0) are placed on probation. Part-time students and those on academic or disciplinary probation may not participate in any organized extra-curricular activity. For details of these regulations, see the *Student Handbook*.

Students desiring to graduate with an honor designation must participate in the honors programs. Consult page 45 for details.

Application for degrees and certificates

In addition to the formal academic requirements for degrees described in the section on "The Academic Programs" beginning on page 41, every student must satisfy certain technical requirements. He must have completed a year's residence at Calvin during the year preceding his graduation. He must have completed with his departmental adviser a Major Concentration Counseling Sheet and have met all the conditions specified in it, (these sheets are normally completed during the sophomore or junior years) and must have filed formal application to graduate in the Office of the Registrar not later than the beginning of the semester or summer session in which he expects to graduate.

Students who meet the conditions for teacher certification in Michigan as explained on pages 46-48 should apply for this certificate at the Department of Education at the end of the semester during which they have completed the requirements and must apply within one calendar year after their completion.



EXPENSES *and* FINANCIAL AID

Tuition and related fees

Tuition and related fees are \$1,260 for the year and \$630 for a semester. This includes a total of \$20 a semester in fees for student organizations including *Prism*, the student center, the health service, class dues, and laboratory fees. Although the tuition for the interim is covered by the tuition of the regular semesters, there will be no reduction in the semester tuition if a student does not enroll for the interim. If a student registers for the interim alone, he will be charged at the one-course rate.

Calvin has always considered it a privilege and an obligation to provide financial assistance to outstanding young men and women whose personal and financial resources are inadequate to meet the basic cost of education. The most significant financial support has come from the Christian Reformed Church. On the basis of distance from the college, it has provided the funds for institutional grants-in-aid. Students whose parents are members of the Christian Reformed Church and who thus contribute regularly to the support of Calvin College, will be able to apply for an institutional grant-in-aid at the time of registration. The amount of this grant-in-aid is determined in part by the distance between the student's home and his campus at Calvin College, as measured in a direct line. The home of an unmarried student is considered to be that of his parents; that of a married student to be that of his residence before enrolling at Calvin. If a student's parents are not members of the Christian Reformed Church, the grant-in-aid will be based on the location of the Christian Reformed Church of which the student is a member. The maximum grant-in-aid is:

	per year	per semester
Within ten miles of the student's campus	\$180	\$ 90
From ten to three hundred miles	260	130
From three hundred to a thousand miles	340	170
More than a thousand miles	420	210
Manitoba, Ontario, and Quebec provinces of Canada	340	170
Alberta, British Columbia, and Saskatchewan provinces	420	210

In addition, a special reduction of \$25 per student is granted when two or more full-time students enroll from one family.

The tuition rate for part-time students is \$175 for each course, with a \$25 institutional grant-in-aid for those who are members of the Christian Reformed Church. Part-time tuition for students carrying fewer than three courses does not cover any of the related fees for health service, student organizations including the *Prism*, the student center, etc. The auditing fee for part-time students is one half of the regular tuition charge; there is no fee for auditing by full-time students.

Expenses for room and board

The basic charge for room in the new residence halls at Knollcrest and board in Knollcrest dining halls is \$860 for the year; students assigned to older college housing or guild houses in the Franklin campus area will be charged \$825. For regulations concerning student housing see page 13.

For students not required to live in college housing, the charge for a seven-day meal ticket is \$540 a year and for a five-day meal ticket is \$455.

Summary of fees

SEMESTER FEES		MISCELLANEOUS FEES	
Tuition, full-time	\$630.00	Late application fee	\$10.00
Tuition, part-time, per course	150.00	Late registration fee	10.00
Auditing, per course	87.50	Late payment fee	3.00
Room and board, maximum	425.00	Physical education deposit	5.00
Board, seven days	270.00	Graduation fee	10.00
Board, five days	227.50	Second diploma fee, combined curriculum programs	5.00
Directed teaching fee	10.00	Vehicle registration fee	5.00
Individual music instruction	45.00	Transcripts, after first copy	1.00
Organ rental	15.00	Copies with one paid	.25
		Residence hall social fee	16.00

In addition to these direct charges, the student should allow about \$100 per year for the purchase of textbooks and classroom supplies. An annual budget for personal items such as clothing, transportation, entertainment, toilet articles, and miscellaneous supplies varies widely among students.

Payment of financial obligations

Tuition and fees should be paid in full at the time of registration; however, in no case should the initial payment be less than \$200. The balance must be paid by November 10 of the first semester and by April 1 of the second. Accounts not paid by these dates are subject to a \$3 late payment fee.

A minimum of one fourth of the total charges for room and board, when these are to be paid to the college, must be paid at the beginning of the semester and the remainder in quarterly payments, at dates published subsequently. Accounts not paid on this schedule will be subject to a \$3 late payment fee.

Student financial aid

In addition to scholarships, which are granted on the basis of outstanding records and promise, Calvin College has a broad program of financial assistance for its students. This includes, in addition to the institutional grant-in-aid program described on page 27, a variety of other grant-in-aid and loan programs, several of which are supported or underwritten by the state and federal governments or by private organizations, and a placement service for part-time employment. The office also serves as a clearing house for non-college programs. The college urges each applicant to explore local or state sources of financial assistance as well. Generally, a student's financial needs can be met by a combination of the various programs. Students who may be eligible for scholarships should consult the section on page 30.

A prospective student should not deny himself a Calvin College education because of cost. However, arrangements should be made prior to registration. At that time he should have in hand a substantial portion of his semester's expenses from savings, scholarships, loans, or grants-in-aid, and, if intending to carry a full academic load, should not plan to carry more than twelve to fifteen hours of employment.

Any student with financial need who feels he is eligible for any student aid program may request additional information from the Office of Student Financial Aid or request an application form. The office is located in the Administration Building on the Franklin campus. As a matter of policy, to be fair to all students, applications for financial assistance must be supported by a Parents' Confidential Statement which is reviewed for the college by the College Scholarship Service of the College Entrance Examination Board to determine the degree of need. Students who apply should be in good standing or, if freshmen, should be admitted to regular status. Except for emergency aid programs, applications should be made by April 1.

The office also operates the Student Employment Service, which serves as a clearing house for part-time and seasonal employment. Students wishing such work should apply at the office at any time.

Educational Opportunity Grants. This federal government-sponsored program is intended to make possible college education for exceptionally needy students with average or better-than-average academic promise. Up to one half of a U.S. citizen's financial need — grants range from \$200 to \$1,000 a year — may be supplied; the other half must come from loans or employment.

College Work-Study Program. Students who need employment to help pay for college expenses are potentially eligible for employment by Calvin College or in approved off-campus agencies under this federally-supported program for U.S. citizens. The student's eligibility depends on his need, with preference being given to applicants from low-income families.

National Defense Student Loan Program. A maximum loan of \$1,000 is possible for U.S. citizens. Preference is given to needy students and to those entering the teaching profession. These loans bear no interest charge until nine months after graduation. At that time, a ten-year repayment schedule commences with a 3 per cent interest charge. If the borrower

becomes a full-time teacher, up to 50 per cent of the loan may be forgiven at the rate of 10 per cent per year of teaching.

Loans for Canadian Students. The various provincial governments of Canada have generous loan programs which may be used by students from those provinces of Canada.

Cuban Loans. This program, with the same features as the National Defense Student Loan Program, is available to Cuban nationals who are refugees in the United States.

Guaranteed Loan Programs. Loans from private banks generally up to \$1,000 are guaranteed and subsidized by the federal government through various state and private agencies such as the Student Aid Fund, Inc. Financial need is not stressed.

Emergency Loans. Amounts up to \$50 are available from the Kiwanis Club funds.

Royce Ulferts Memorial Loan Fund. This \$100 emergency loan fund has been established in memory of Royce Ulferts.

Scholarships

A number of scholarships are available for undergraduates of all classes, and each applicant should determine his own eligibility. Approximately a hundred freshman scholarships are granted annually. All scholarships are awarded as recognition for academic excellence and are renewable on a competitive basis. Cash stipends given to scholarship winners vary in amount, depending on the student's need, and such stipends can be supplemented by loans and work opportunities provided by the college. All students holding scholarships awarded by the college are expected to meet part of their own expenses.

Calvin College participates in the College Scholarship Service of the College Entrance Examination Board. All scholarship winners who apply for scholarship amounts beyond the minimum stipend must submit a Parents' Confidential Statement for processing by the College Scholarship Service.

Prior to January 1, freshman applicants will be mailed application forms with their admission forms. A freshman scholarship candidate must not only complete application forms but must also complete the scholarship forms and arrange for two letters of recommendation in their support. Be-

cause all freshman applications and supporting documents must be in the hands of the Scholarship Committee by January 1, the Scholastic Aptitude Test must be taken not later than the scheduled December date. Applications for all other scholarships must be completed by March 11, with the exception of those designated.

FRESHMAN SCHOLARSHIPS AND AWARDS

Freshman Honor Scholarships. Each year the college awards up to five Honor Scholarships to students of superior academic achievement. The minimum stipend is \$100; it can be supplemented by an additional stipend up to 80 per cent of the student's need and by work opportunities and loans. A student will automatically be considered for this scholarship if he has applied for the Calvin College Freshman Scholarship.

Freshman Scholarships. These are awarded to entering freshmen who have done excellent work in high school. The minimum stipend is \$50, but this can be supplemented by an additional stipend up to 25 per cent of a student's need and by work opportunities and loans. Typically, at least one scholarship is offered to a graduate from each Christian high school.

Freshman Certificate of Merit Scholarships. Calvin College offers Freshman Scholarships to each high school graduate who has received a National Merit Scholarship Corporation Certificate of Merit, provided he or she has satisfied the other conditions for receiving a College Scholarship described above, and provided he has not already been granted

another freshman scholarship. The winner of such a certificate who seeks to qualify for the scholarship must notify the chairman of the Scholarship Committee not later than April 1 of the year in which he is applying for admission and must present a copy of the certificate to the Scholarship Committee. Winners of Letters of Commendation are not eligible.

Freshman Pre-Nursing Scholarships. Each year Calvin College offers two scholarships for students who plan to enter the one-year pre-nursing course. One award is made to a graduate of a Christian high school, and one to a graduate of a public high school who is a member of the Christian Reformed Church. The stipends and the other conditions are like those for the Calvin College Scholarships described above, except that applicants are not expected to complete a three- or four-year program.

The Alvin M. Bentley Foundation Scholarship. Calvin College has been allocated one \$500 scholarship, to be awarded each year under the Alvin M. Bentley Foundation Scholarship Plan. The award is intended for an outstanding high school senior who is a resident of the state of Michigan, and who is seeking admission



to Calvin College. The same general criteria used in the selection of candidates for other scholarships will be used in the selection of a candidate for the Bentley Scholarship. The student is expected to have outstanding talents. Consideration will be given to scholarship, character, personality, promise of growth, and financial need.

Consumers Power Company Scholarship. Each year the Consumers Power Company offers a scholarship of \$300 to an entering freshman. The scholarship is good for any course of study selected by the student; the recipient must live in a Michigan area served by the Consumers Power Company.

Detroit Edison Company Scholarship. The Detroit Edison Company offers annually a scholarship of \$400 to be awarded to a high school graduate whose residence is in the area served by the Detroit Edison Company. The scholarship is awarded on the basis of scholastic record, character and personality, citizenship, extra-curricular activity, seriousness of purpose, and financial need. The scholarship is renewable if the student maintains at least a B average.

Calvin College National Merit Scholarship. Calvin College annually sponsors one four-year scholarship for a National Merit Finalist. The selection procedure and the amount of the scholarship is determined by the National Merit Scholarship Corporation. Prospective students

who indicate Calvin College as their first-choice institution will be considered for this award.

Steelcase Foundation Scholarship. The Steelcase Foundation of Grand Rapids, Michigan, offers two scholarships annually of \$250 each to applicants for admission to Calvin College who are the children of employees of Steelcase, Incorporated. The scholarships are renewable for three years. Continuation of the scholarship shall require maintenance of at least a C+ average. The winners are to be selected by the Scholarship Committee of the college, and the applicants are to be judged on the basis of scholastic ability, character, and need. If scholarships are not filled by the children of Steelcase, Incorporated, employees, for whatever reasons, the scholarships shall be open to other Michigan residents.

Kent Medical Foundation Grants. Each year the Kent Medical Foundation makes available two tuition grants to qualified students at Calvin College. These grants are designated for students who are residents of Kent County or vicinities bordering thereon and who have not received a professional degree. To qualify for a grant, a student must be matriculated in a health career recognized as scientific in nature. Upperclassmen, as well as freshmen, are eligible to apply for this grant; the deadline for application is March 11.

FRESHMAN GRANTS NOT ADMINISTERED BY THE COLLEGE

State of Michigan Competitive Scholarships. Each year the Michigan Higher Education Assistance Authority awards a number of state scholarships to beginning freshmen. These scholarships are to be used for tuition and fees and are not to exceed \$800. Scholarship winners must demonstrate college potential and financial need. To be eligible for consideration for a state scholarship, each applicant must: (1) qualify as a result of his performance on the State Competitive Examination, (2) be a continuous resident of Michigan for 18 months prior to the date of the examination, (3) have successfully completed the program

of instruction at a Michigan high school or be currently enrolled as a student at such a school and engaged in a program which will be completed by the end of August, and (4) be a person of good moral character. Additional information and application forms can be secured from the principal's office of any Michigan high school.

Freshman Alumni Grants. Since 1966 the Calvin Alumni Association has given a large number of freshman grants of \$150 each to qualified high school seniors who are in need of special financial assistance. Candidates for these awards are

nominated by local alumni chapters or by high school principals and counselors.

The Atlantic Monthly Scholarship. The *Atlantic Monthly* offers a \$500 scholarship each year to the winner of its Creative Writing Contest for high school students. Calvin College participates in this program by offering a supplementary grant based upon the needs of the winner, if he enrolls at Calvin College. The selection is made by The Atlantic Monthly Company. Complete details concerning this contest can be secured by writing to the Atlantic High School and Private School Contest, Eight Arlington Street, Boston, Massachusetts 02116.

Classis Muskegon Young Calvinist Alliance Scholarship. The Young Calvinist Alliance of Classis Muskegon of the Christian Reformed Church offers a scholarship or grant-in-aid of \$300, to a Christian or public high school graduate who is or was a member of the alliance, for study at Calvin College. The award is given to a prospective freshman or to a current undergraduate student. It is renewable for one year. Applications are received by the executive committee of the Young Calvinist Alliance and a nomination of two or three is presented to the delegate board, which in turn selects one for the award.

Regulations: (1) The recipient must be a member of the Christian Reformed Church and a member or former member of the Muskegon Young Calvinist Alliance. (2) If in the opinion of the executive committee of the alliance no suitable candidate is available, no award will be made that year. (3) Selection is made on the basis of Christian character and life, loyalty to the church and societies, financial need, intellectual ability, and leadership. (4) A freshman receiving this scholarship or grant-in-aid must have fulfilled regular college admission requirements. (5) Application for this scholarship must be made by March 1. The applicant should inform the pastor of his church of his interest. Application forms will be forwarded to the applicant. (6) This scholarship or grant-in-aid may be for either freshmen or upperclassmen. (7) The recipient of this scholarship should expect to complete his course at Calvin College.

Henry Beets Mission Society Scholarship. The Henry Beets Mission Society of the La Grave Avenue Christian Reformed Church provides an annual grant to promote the ministry of the Church to the American Indian. Initial funds for this grant were given by the Herrick Foundation of Detroit, Michigan. Those eligible are American Indians who intend, preferably, to minister as pastors or teachers to members of their own race. The amount of the grant is determined by the needs of the student. The student shall consult with the registrar when planning his program. Candidates should apply in writing to the Henry Beets Mission Society, La Grave Avenue Christian Reformed Church, 107 La Grave Avenue, Grand Rapids, Michigan 49503.

Julius Bergsma Memorial Awards. The Bergsma Brothers Foundation gives three duplicate awards to young men and young women finalists in the Annual Young Calvinist Federation Speech Contest: Two first-place winners — \$350 tuition and/or college-related expenses, two second-place winners — \$100 cash awards, two third-place winners — \$50 cash awards.

Contestants must be members of a Young Calvinist Federation youth group. Schooling of contestants must not exceed the twelfth grade. The first-place award will be held in trust for up to three years to permit the contestant to meet college entrance requirements. If a first-place winner does not plan to enter college or is prevented from doing so, the next-ranking contestant becomes eligible for the award. Complete details on rules and awards may be obtained from The Young Calvinist Federation, 2365 Nelson Avenue, S.E., Grand Rapids, Michigan 49507.

Peter M. Hekman Memorial Scholarship. The Hekman family, in memory of Mr. Peter M. Hekman, provides one \$200 tuition scholarship for the freshman year to a senior graduating from the Ripon Christian High School. The scholarship is awarded on the basis of the applicant's scholastic achievement and financial need. Application forms are available at the office of the Ripon Christian High School.

George M. Pullman Educational Foundation Scholarships. The George M. Pullman Educational Foundation awards each year a number of scholarships to college students with financial need. Applicants should be residents of Cook County, Illinois. Non-residents of Cook County, Illinois, are eligible for consideration only if they are sons or daughters of employees of the Pullman-Standard Car Manufacturing Company or of the Pullman Company.

Applications are accepted from entering freshmen and from current undergraduate students. The application deadline for entering freshmen is January 15, and

for current undergraduate students April 15. High school seniors should obtain information about application procedures from high school placement officials. Other candidates should address their inquiries to the Educational Director, George M. Pullman Education Foundation, 1451 East 55th Street, Chicago, Illinois 60615. The National Merit Scholarship Qualifying Test or the College Board Scholastic Aptitude Test is required of prospective freshman candidates. Arrangements to take either of these tests must normally be made before December of the senior year of high school.

SOPHOMORE, JUNIOR, AND SENIOR SCHOLARSHIPS AND AWARDS

Upperclassman Scholarships. Each year Calvin College offers a number of scholarships to members of the freshman, sophomore, and junior classes who have achieved superior records in their previous college work. The minimum stipend is \$100, but this can be supplemented by an additional stipend up to 25 per cent of a student's need and by work opportunities and loans. Holders of Freshman Honor Scholarships and Calvin College Scholarships, as well as other qualified students, are encouraged to apply for Upperclassman Scholarships.

Alumni-Faculty Memorial Scholarships. The Calvin Alumni Association each year provides the college, in memory of de-

ceased college faculty members, with annual scholarship grants. The number of scholarships given each year is dependent upon the funds available and the number of qualified students making application.

Associated Women Students Scholarship. Each year the Associated Women Students of Calvin College, of which every woman student is a member, offers a scholarship consisting of \$100 per semester for two semesters, to a sophomore woman student for her junior year. The selection of a candidate or candidates for the scholarship is made by the Executive Board of the Associated Women Students, subject to the approval of the



faculty scholarship committee. Recommendations shall be on the basis of scholarship, Christian character, personality, promise of growth, and need.

Dr. Harry Kok Memorial Scholarship. An annual scholarship of \$400 is presented each year, in memory of Dr. Harry Kok, to a junior pre-medical student for use in his senior year at Calvin College. The award is given primarily for achievement in scholarship, although other factors, such as financial, need, will be taken into account. This scholarship is not limited to students who make formal application.

Dr. John De Vries Memorial Award. An annual award of \$2,000 in memory of Dr. John De Vries is presented each year to a student majoring in science for use in his junior or senior year. In making the award, the scholarship committee will give consideration to the applicant's scholarship, Christian character, financial need, personality, and promise of growth.

Henry Beets Mission Society Scholarship. For information on this grant to American Indians see the previous section.

Dow-Employees Scholarship Fund. The Dow-Employees Scholarship Fund provides Calvin College with an annual scholarship grant to cover an amount approximately equal to the institution's cost of educating a student during the year immediately preceding the year in which the grant is given. The grant will cover the student's tuition as well as the additional cost to the school.

The stipend is to be given preferably to an outstanding science or engineering major in his junior year, or to a major in another department, if the college so elects, for use in his senior year. The recipient must have the ability, initiative, and personality to contribute to his field in coming years. The recipient is to be selected by the scholarship committee of the college on the recommendation of the department concerned.

Dutch Immigrant Society Scholarship. The Dutch Immigrant Society offers annually four scholarships of \$250 each to Calvin College upperclassmen. The applicant must be an immigrant or a child of immigrant parents. This award is granted on the basis of scholarship, Chris-

tian character and personality, and financial need. The selection of candidates is made by the Scholarship Committee.

Spalink Memorial Missions Scholarship. An annual senior scholarship award of \$500 is presented by Mr. and Mrs. John Spalink, in memory of their son, John Spalink, Jr. Its purpose is to encourage superior students to enter missions. The scholarship is awarded to a junior student of either sex who shows a definite interest in a missionary vocation. The award is given primarily for academic achievement, although other factors, such as financial need, will be taken into account. Generally, members of the Christian Reformed Church who aspire to a career with that church's missions will be shown a certain preference. The scholarship committee makes final determination of the award.

Kent Medical Foundation Grants. Each year the Kent Medical Foundation makes available two tuition grants to qualified students at Calvin College. These grants are designated for students who are residents of Kent County or vicinities bordering thereon and who have not received a professional degree. To qualify for a grant a student must be matriculated in a health career recognized as scientific in nature.

Summer School Scholarship. Twelve scholarships in the amount of \$200 each, one for each National Union of Christian Schools district, will be available to Christian school teachers for undergraduate study at Calvin College during the summer of 1970. The National Union and Calvin College each contributes \$1,200 for this undergraduate program. The cash awards must be used for payment of tuition and other expenses involved in work for personal and professional enrichment, work toward the validation of a teaching certificate, or toward a degree at Calvin College.

To be eligible for a scholarship the teacher:

1. Must have completed three years of successful teaching in the Christian schools.
2. Must be able to produce satisfactory evidence of possessing:

- a. Ability to pursue academic work successfully.
 - b. Qualities of personality, character, and conviction that are assets to a Christian teacher.
 - c. Loyalty to the Reformed faith.
 - d. Superior teaching ability.
3. Must agree to serve a National Union member school at least one year after receiving a scholarship.
 4. Must submit a statement of 250 words

or less on the reason(s) for applying for a scholarship.

For details and applications for these scholarships and for grants-in-aid write directly to the Director of Scholarships, National Union of Christian Schools, 865 - 28th Street, S.E., Grand Rapids, Michigan 49508.

Application must be made by February 1.

Student awards

Anna Bruinsma Award in Music. The interest on \$750, given by the late H. J. Bruinsma of Grand Rapids in honor of his deceased wife, one of Calvin's alumnae, is to be used in the Department of Music, two-thirds of it serving as first, and the remaining third, as second prize. This award is open only to seniors.

Oratorio Society Applied Music Awards. A number of awards of \$200 each are presented by the Calvin College Oratorio Society to prospective freshmen. These awards are given to instrumentalists and vocalists who can meet college admission requirements, who have records of superior achievement in high school music activities, and give evidence of outstanding talent and musicianship in audition. Recipients must maintain a C average for the duration of the award and are expected to participate in the scheduled rehearsals and performances of at least one of the following: concert band, varsity band, orchestra, a cappella choir. For application procedure, see award below.

Vander Heide Voice Award. An award of \$200 is offered annually by Mr. and Mrs. Jan Vander Heide to a vocalist who can meet Calvin College admission requirements, and who has a record of superior achievement in high school music activities. The recipient will be expected to participate in the scheduled rehearsals and performances of at least one faculty-directed choral ensemble, and to maintain at least a C average for the duration of the award. Only freshmen are eligible. Applicants will be judged on the basis of evidence of talent and financial need.

Application blanks for the Oratorio Society and Vander Heide awards may be secured from the Music Department after March 1, and must be returned on or before April 18, 1970. Auditions in person or by tape recording will be held May 2, 1970.

Baker Extemporaneous Speaking Awards. Through the generosity of the Baker Book House of Grand Rapids, Michigan, credit vouchers for the purchase of books are awarded annually to the first, second, and third place winners in both the men's and women's divisions of the Extemporaneous Speaking Contest. In each division the winners of first, second, and third places are awarded credit vouchers of \$25, \$10, and \$5, respectively. The first place winners of each division represent Calvin College at the annual State Extemporaneous Speaking Contest.

Berghuis Forensic Awards. Students who represent the college in State Oratory, Extemporaneous Speaking, and Interpretative Reading Contests, and students who represent the college in the State Debate Tournament are eligible for the Berghuis Forensic Awards. These awards are made in the following manner: for the first year's participation, a silver pin; for the second, a silver pin exchanged for a gold pin; for the third, a ruby is added; for the fourth, two pearls are attached; for the fifth, a diamond is added. If any student represents the college in two activities in one year, he is credited with two awards. These awards are made possible through the generosity of Mr. and Mrs. J. P. Berghuis of Prinsburg, Minnesota.



Broodman Oratorical Awards. Through the generosity of the Broodman family of Grand Rapids, Michigan, a gold medal and a \$25 Savings Bond are awarded to the first place winner in a men's oratorical contest. Silver and bronze medals are given annually to the winners of the second and third places, respectively, in a men's oratorical contest. These awards are presented in memory of the late Dr. G. J. Broodman. The first-place winner represents Calvin College in the State Oratorical Contest of the Michigan Intercollegiate Speech League.

Drama-Interpretative Reading Awards. An anonymous donor annually presents the Speech Department with \$100 to be used as awards in the areas of drama and interpretative reading. This enables the Speech Department each year to make the following awards:

1. A \$25 award to a senior student who has done outstanding work in acting in Thespian productions.
2. A \$25 award to a senior student who has made valuable contributions in the areas of the technical aspects of Thespian productions.
3. \$15 awards to each of the two students selected to represent Calvin College at the League Division of the Annual Interpretative Reading Festival of the Michigan Intercollegiate Speech League.

4. \$10 awards to each of the two students selected to represent our college at the Junior Division of the Annual Interpretative Reading Festival.

Monsma Debate Award. Each year Mr. and Mrs. John W. Monsma, Jr., offer an award of \$100 to an outstanding Calvin College debater. The award is given on the basis of the student's ability as a debater, his academic record, his character and personality, and his financial need. The Speech Department will select the nominee to receive the annual award.

Thespian Oratorical Awards. The Thespians, dramatics club of Calvin College, offers three awards in oratory for women, of \$15, \$10, and \$5.

The first award winner represents Calvin College in the State Oratorical Contest of the Michigan Intercollegiate Speech League.

The Beets Calvinism Award. The late Dr. and Mrs. Henry Beets established a fund which now amounts to \$1,500, the income of which is to constitute a prize for the best essay or term paper on Calvinism, in any of its expressions, written each year by a Calvin College student. The prize will be awarded at the discretion of the Department of Religion and Theology, in consultation with the president of Calvin College. If, during any given year, the Department of Re-

ligion and Theology considers the essays or papers submitted of insufficient merit to deserve the prize, the interest of such a year, or years, will be added to the principal.

The William B. Eerdmans Literary Awards. The late Mr. William B. Eerdmans, Sr., established the William B. Eerdmans Literary Awards in the interest of encouraging original, creative writing among Calvin College students.

Under the terms of the foundation three awards—first, \$35; second, \$25; third, \$15 are made. Any type of original writing is eligible for an award, whether it be poetry, fiction, or essay, creative or critical, seriously reflective, or delightfully amusing.

The Rinck Memorial Award. A fund of \$2,500 has been subscribed by former students and friends as a memorial to William Rinck, Professor of Mathematics at Calvin College (1905 to 1920). The income of this fund is devoted to an award for outstanding work in mathematics. The prize is awarded annually to

the senior student majoring in the Mathematics Department who has, in the opinion of the members of the department, done superior work in undergraduate mathematics.

Jewish Evangelization Award. Dr. and Mrs. William J. Yonker, for the year 1969-70, offer a prize of \$50 for the best essay and a prize of \$25 for the second-best essay on a subject bearing on the evangelization of the Jews. The contest is open to all college students.

The Edward D. VanderBrug Memorial Award. In memory of Mr. Edward D. VanderBrug, the VanderBrug family has provided two awards to be made annually to students who have done excellent work in their course in education. The awards, consisting of fifty dollars' worth of books, are given, without application, to those two students who, in the judgment of the Department of Education, have shown particular application to their training as teachers and who show strong intention to teach in the Christian schools.

Postgraduate fellowships

Board of Trustees Scholarship. Calvin Seminary, under the authority of the Board of Trustees of Calvin College and Seminary, offers a scholarship consisting of \$500 to a member of the graduating class of Calvin College. The award will be made to a student who plans to enter Calvin Seminary and, eventually, the ministry in the Christian Reformed Church.

Applications should be in the hands of the chairman of the Scholarship Committee by March 1.

Competitive National Graduate Fellowships. Many competitive national fellowships are available to Calvin seniors with outstanding records. These include the Woodrow Wilson fellowship, the Danforth Foundation fellowships, the Rhodes scholarships, the Marshall fellowships, the National Science Foundation fellowships, the various Fulbright grants, and many others. The conditions for

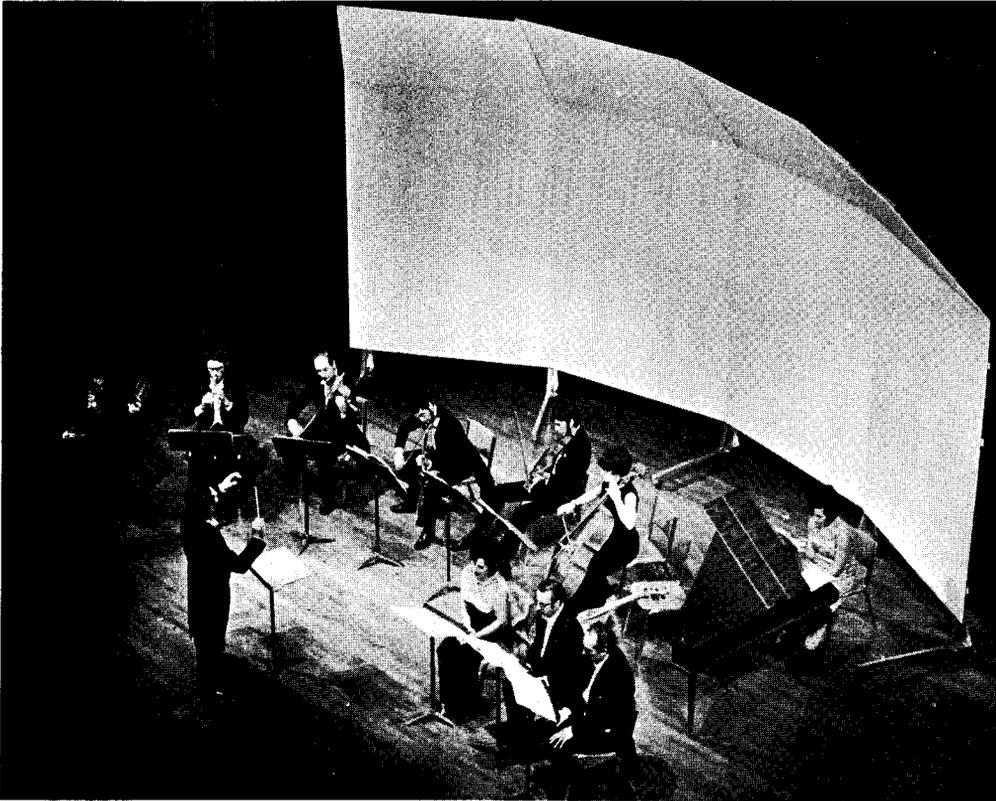
these grants vary from year to year, as do the deadlines. For most of them, however, application must be made early in the fall and students are advised to take the Graduate Record Examinations at the earliest possible date. Students interested in any of these grants are advised to consult their departmental chairmen and the coordinator of graduate fellowships.

University of Michigan State College Fellowships. These competitive, prestige fellowships to the Graduate School of the University of Michigan, totalling \$2,400 plus tuition for an academic year's work, are open to students nominated through the scholarship committee. Up to twenty-four grants are made by the university to students nominated by various Michigan colleges and universities. For information, consult the coordinator of graduate fellowships.

University of Michigan Scholarships for Graduates of the Pre-Engineering Course. The University of Michigan offers a limited number of scholarships to worthy and needy students who have completed their pre-engineering course and who transfer to the University of Michigan to complete their work for an engineering degree. The amount of the scholarship is \$500, or more, a year. These scholarships are offered only to residents of Michigan. Pre-engineering students who are interested should consult the chairman of the Engineering Department or

the chairman of the Scholarship Committee before March 1.

University of Michigan School of Business Administration Tuition Scholarship. This scholarship is awarded annually to a graduate of Calvin College who has majored in business administration and who is recommended for the scholarship by the members of the Economics Department. Seniors who are interested should see the chairman of the Economics Department before February 15.





THE ACADEMIC PROGRAMS

THE PRIMARY FOCUS of a Christian liberal arts education at Calvin College is on teachers and students together engaging in the various scholarly disciplines, directed and enlightened in their inquiries by the Word of God. We believe that in a complete liberal arts education the student should be introduced to the disciplines on two different levels.

In the first place, he should acquire a general or extensive education by following a rationally determined pattern of required and optional courses in the various major disciplines, the fundamental unifying element in this pattern being the Christian perspective within which all courses are presented. From this extensive study it is hoped that the student will acquire a knowledge of the more significant results or products of the various disciplines; an understanding of the methodologies of the disciplines, which will enable him to judge the products of the disciplines; and an acquaintance with alternative approaches to the same subject matter.

Secondly, we believe that in addition to such a general or extensive education, each student should also be required to concentrate in some particular discipline and thus to supplement his extensive study of the disciplines with an intensive study of some one discipline. This intensive study will have fundamentally the same aims as those for the extensive study. In his field of concentration, however, the student can achieve the same aims more fully, more intensively, in more detail.

The academic programs established on the basis of the philosophy of education set forth above are given in detail in the next section.

Changes in the curriculum

In September, 1967, a revised college calendar and revised graduation requirements were introduced. The calendar was changed from the traditional two-semester plan to the 4-1-4 plan, consisting of two semesters,

each approximately four months in length, plus a one-month interim term. Typically, during each of the two semesters a student takes four courses, each of equal academic value, and during the interim he takes one. As part of the 4-1-4 program an honors program has been established for the superior student as well as a special program for assistance for students admitted on probation.

Students who have entered Calvin College since September, 1967 are required to meet the graduation requirements of the 4-1-4 program. Students who enrolled at Calvin College prior to September, 1967, have the option of graduating under the requirements either of the 4-1-4 program or of the program under which they first enrolled. However, a student must meet all of the requirements of the program under which he elects to graduate. Students enrolled in Calvin College prior to September, 1967, and wishing to graduate under the requirements of an earlier program should refer to the appendix, page 116, and consult with their adviser or the registrar.

This 1969-70 catalog introduces certain modifications in the requirements for graduation which provide greater flexibility and which take into account the quality of a student's performance during his last two years in high school. Examinations either exempting a student from a formal requirement or, in some cases, giving him course credit are being introduced. Any student who feels he is disadvantaged by these changes may graduate under the previous requirements.

General graduation requirements

All four-year degree programs require the completion of thirty-six course units, including three interim courses and certain designated liberal arts courses, with a minimum average grade of C (2.0). Students are also required to complete an approved program of concentration with a minimum average grade of C (2.0).

Upon the satisfactory completion of these requirements, the student is eligible for a Bachelor of Arts degree. If he has completed at least seventeen courses in biology, chemistry, the earth sciences, engineering, mathematics, and physics, he may elect instead to receive a Bachelor of Science degree.

PROGRAMS OF CONCENTRATION

Every student must fulfil the requirements of some approved departmental or inter-departmental program of concentration. Although such majors are not officially designated until the end of the sophomore year, certain programs do specify some of the freshman and sophomore courses. Admission to major status is not automatic but requires the formal approval of the department or program chairman and the completion of a counselling form which details the student's remaining academic program.

To be eligible for acceptance in a given program, a student must have secured a minimum grade of C (2.0) in the course or courses designated by the department offering the program, he must maintain this average in the courses in his program, and he must present at least this minimum average in his program of concentration at the time of his graduation. A student not maintaining a minimum grade of C (2.0) in his program of concentration may be permitted to remain in a program for a single semester of probation. The programs of concentration are described in the section of the catalog presenting departmental programs and course offerings beginning on page 55.

Students may initiate cross-disciplinary programs of concentration other than these formally approved by the faculty. Such programs require the approval of the several department chairmen concerned and of the Dean of the Faculty, who will designate a program adviser.

INTERIM COURSES

A student must complete three interim courses for graduation. The grade for an interim course, except when decided otherwise by the faculty, shall be honors, satisfactory, or unsatisfactory. Interim courses are taught at four levels: Level I, open to freshmen and sophomores; Level II, open to sophomores and juniors; Level III, open to juniors and seniors; and Level IV, open to any student. A student is not permitted to take more than two interim courses in any single department, nor is he permitted to take more than two interim courses at any single level. Certain designated interim courses may meet core requirements and others may be included in a program of concentration.

THE LIBERAL ARTS CORE

The size of the required core is determined in part by the courses the student has taken during his last two years in high school. Although Calvin's liberal arts core requires eighteen and a half courses, typically two or three are satisfied by high school performance and others may be satisfied by examination.

Six of the required liberal arts courses provide the context for a Calvin education (history, philosophy, theology); eight provide an introduction to the major systematic disciplines (the sciences, the social sciences, the fine arts); two and a half assure a skill in the basic competencies (written and spoken rhetoric and physical education); and two, when preceded by language foundation in high school, provide a minimal mastery of a foreign language. These requirements may be met in many ways during the student's four years at Calvin.

The variety of courses in each department which meet the liberal arts core are listed with the departmental offerings.

History, philosophy, religion and theology

REQUIRED COURSES 6

Every student must complete six courses from these departments with at least one from history, one from philosophy, and two from religion and theology. Not more than one additional course may be selected from any one of these departments. The interdisciplinary course, Christian Perspectives on Learning, satisfies this requirement.

Typically these requirements are met by History 101, Philosophy 151-152 or 153, Religion and Theology 103, 206, or 301, and CPOL 100.

Biology, chemistry, earth science, mathematics, physics

2-3

A student who completes a mathematics or natural science major in high school (3 units) with a minimum average grade of C (2.0) is required to take two rather than three courses in this group.

However, every student must either have a high school major in mathematics or take at least one mathematics course in college (typically 109); he must have a high school natural science major or take at least one college course in a natural science (typically Biology 111, Physics 110 or 112); he must have either junior or senior high school courses or college courses in both a physical science and a biological science (typically Biology 111) or take a two-course college sequence in any department in this group.

Rel 103
Econ 151
Span

Economics, political science, psychology, sociology

1-2

A student who during his last two years in high school has completed a year's course with a minimum average grade of C (2.0) in any of these fields or one combining two or more of them, is required to take one rather than two courses in this group.

Either during his last two years in high school or in college a student must have studied economics or political science and psychology, sociology, or anthropology. Typically these requirements are met in college by Economics 151, Political Science 151, 201, or 300, Psychology 151 or 212, and Sociology 151 or 203.

Art, literature in any language, music, speech

2-3

A student who during his last two years in high school has a year's course with a minimum average grade of C (2.0) in any one of these fields or in one combining two or more of them, is required to take two rather than three courses in this group.

Every student is required to take college-level work in English or American literature. Any course in the English Department except for 100, 225, and 321 satisfies this requirement. At least one course must be taken in another department.

Written rhetoric, spoken rhetoric, physical education

2½

Every student must demonstrate his competence in written rhetoric either by examination or by passing English 100.

Every student must demonstrate his competence in spoken rhetoric by examination or by passing Speech 100 or, if in elementary education, 214.

Four semesters of participation in physical education are required. This typically is satisfied by four quarter-courses from Physical Education 100-179.

Dutch, French, German, Greek, Latin, Spanish

1-4

A student must study one foreign language through the second-year college level. At least one course in foreign language must be completed at Calvin. Typically all foreign language literature courses satisfy the "literature in any language" requirement above as well.

A student usually should complete the core requirements in mathematics, history, and written rhetoric by the end of his freshman year, and should complete the requirements in physical science, biological science, physical education, spoken rhetoric, and foreign language by the end of the sophomore year. One course in religion and theology should be taken for each year in residence and at least one must be completed by the end of the sophomore year. However, because of the demands of various programs of concentration, the particular courses chosen to meet the student's core requirements and his schedule for completing them should be worked out early with his academic adviser.

Exemption and course credit by examination

Entering freshmen have been permitted to sit for a variety of examinations which either excuse them from taking a given course or which give them college credit for the course. These regulations are specified in the section on Advanced Standing on page 22.

Since 1967 students have been able to satisfy the requirements in spoken and written rhetoric by examination. Beginning with the 1969-70 academic year students will be able to meet any core requirement by examination, thus receiving an exemption, and may, except when the department concerned deems this inappropriate, earn regular academic credit for any course by examination. A student's performance on such tests becomes a part of his academic record and he will be charged an appropriate fee.

Students should apply to the registrar if they wish to sit for either exemption or course credit examinations. The program is administered by the Faculty Examinations Committee.

The honors programs

Calvin is introducing two honors programs which will not be fully implemented until September, 1970. The General Honors Program provides greater flexibility and independence for the superior or self-motivated student. The Departmental Honors Program, which requires participation in the General Honors Program, intensifies the training in the student's major discipline and leads to an appropriate graduation designation.

A student may be admitted to the General Honors Program either on the basis of high school excellence and admissions test scores or, if already registered in the college, on the maintenance of a cumulative grade point average of 3.3 or higher. Exceptions may be made by the Honors Program Committee upon the recommendation of the student's academic adviser or his departmental chairman.

Students in the General Honors Program may register for a variety of types of honors courses—honors sections in large courses, special honors courses, or honors registration in regular courses in which intensified work

will be required. No student may carry more than two such courses at a time. Students in the program may avail themselves of the right to be exempt from core course requirements by examination and of the right to propose cross-disciplinary programs of concentration.

A student in the General Honors Program may apply for admission to the Departmental Honors Program through the chairman of the department. To graduate with this designation he must complete at least four honors courses in the General Honors Program with a minimum average grade of B (3.0), must complete both an independent readings or research course and a seminar in the department, and must pass a senior comprehensive. Juniors and seniors in the Departmental Honors Program may, subject to the approval of the chairman, register for a fifth course which will be graded on the basis of satisfactory or unsatisfactory.

The honors programs are under the supervision of Mr. Dennis Hoekstra, assistant dean for academic affairs.

Teacher education programs

Students who were enrolled at Calvin College prior to September, 1967, and who wish to pursue the teacher-education program may, and are advised to, meet the requirements that were in effect when they first entered the program. (See page 116 for details of the pre-1967 requirements.) Upon completion of the graduation requirements of the college and the certification requirements of the State of Michigan, (including directed teaching at Calvin College) the student will receive a Bachelor of Arts in Education degree, a Bachelor of Arts, or Bachelor of Science degree, depending on the graduation requirements he elects to fulfill.

Prospective secondary school teachers who plan to teach in Canada in most cases should take the general college course at Calvin College and reserve their teacher preparation courses for a fifth year to be taken in Canada. Prospective elementary school teachers, however, may obtain a Michigan State Provisional Teacher's Certificate, which entitles them to receive an official Letter of Standing permitting them to teach in Canadian schools. For information regarding a specific province, students should consult Mr. Bert Bos, director of student certification.

Formal application for admission to the teacher education program should be made at the Department of Education as soon as a student has been admitted to sophomore standing. At the time of admission, he must be maintaining a cumulative grade point average of C (2.0). Students applying later may require more than four years to complete their programs. A student must also be maintaining a cumulative average of C (2.0) when applying for assignment in directed teaching. For details of the teacher

education program, students should secure the pamphlet, *The Teacher Education Program*, from the department.

Elementary education. To meet the departmental requirements in elementary education a student must complete the general graduation requirements; a group concentration of ten and one-half courses or a departmental concentration of nine courses; a minimum of six professional education courses; and a planned program consisting of six courses in other substantive fields deemed appropriate to elementary education. All programs should be worked out with Miss Gertrude Vander Ark, coordinator of elementary education.

A nine-course major program of concentration may be selected from among the following subjects: art, biology, English, foreign language (French, German, Latin, Spanish), history, music, mathematics, physical education, political science, religion and theology (history and literature of religion), and speech.

If a student selects a group program of concentration, he must fulfill one of the programs listed below. A group concentration shall consist of at least ten and a half courses, of which a minimum of five courses shall be in one subject listed above, three in another subject, and the remaining courses to a total of ten and a half in related subjects from the same group.

LANGUAGE ARTS STUDIES. Required are English 100 and Speech 214. Recommended five-course sequences are: in English, 100, 200, 225, and two electives; in Speech, 203, 214, 215, and two electives; in foreign language, five courses approved by the chairman of the department. The recommended three-course sequences are the designated courses above; a three-course sequence in Library Science is possible with 251, 301, and English 225. At least ten and a half courses must be selected from this group.

SOCIAL STUDIES. Required are Earth Science 101 or 113, History 101, Sociology 151 or 203, and one course from Economics 151, Political Science 151 or 300. The recommended five-course sequences are: in Economics, 151, 321 or 322, plus three electives; in History, 101, 211 or 215, plus three electives; in Political Science, 151, 300, plus three electives; in Psychology, 204, 310, plus three electives; in Sociology, 151, 203, plus three electives. The three-course sequences should include the courses designated above. Such a sequence is also possible in Earth Science and Geography. At least ten and a half courses must be selected from this group.

GENERAL SCIENCE STUDIES. Required are Biology 111 or 151; Earth Science 113; Mathematics 109 or 111; and Physics 112, 222, or 225. Three and five course sequences in any science can be worked out with the coordinator of elementary education. At least ten and a half courses must be selected from the sciences.

FINE ARTS STUDIES. Required are Art 207 (or 151, if only one art course is taken), Music 103-104 (or 222, if only one music course is taken), Music 222 or 331, and Speech 214. The recommended five-course sequences are: in Art, 151, 207, 208, 306, and one elective; in Music, 103, 104, 203, 302, and 331. The recommended three-course sequences are: in Art, 151, 207, and 306; in Drama, 203, 214, and one elective; in Music, 103, 104, and 331. At least ten and one half courses must be taken from the fine arts.

The prescribed professional education courses for students beginning with the class of 1971 are 203, 301, 303, 305, 345, and 355. Students graduating under earlier programs must complete 301 or its equivalent 203, 204, 315, and 343. Substitutions for these courses may be made by the chairman of the department.

To meet the technical minor requirements for Michigan certification a student must also present six courses from fields appropriate to elementary education. Typically, these are met automatically by students meeting the core requirements for graduation. Courses recommended for this dual function include: Art 151, Biology 111, English 100 or any literature course in English or a foreign language, Geography 101 or 113, History 101, 211 or 215; Mathematics 109 or 111, Music 222 or 331, Physics 112, Psychology 204, Political Science 151 or 300, and Speech 214.

Secondary education. To meet the departmental requirements in secondary education a student must complete the general graduation requirements of the degree program under which he elects to graduate, a departmental concentration of nine courses or a group concentration of ten and a half courses, a minimum of six professional courses, and a minor of six courses or the equivalent.

The program of concentration shall be elected from the following subject areas: art, biology, chemistry, economics, English, French, German, history, Latin, mathematics, music, physics, physical education, political science, religion and theology (history and literature of religion), Spanish and speech. The minor shall be selected from these subject areas or from earth science, library science, psychology, sociology, and the fine arts. Each program must be approved by an adviser in the student's department of primary concentration. For specific problems concerning professional education, a student should consult Mr. Marion Snapper, chairman of the Department of Education.

The prescribed professional education courses for students beginning with the class of 1971 are 203, 301, 303, 346, and 356. The requirements under previous programs are typically met by 203, 204, 301, 314, and 344.

Professional and preprofessional programs

Programs at Calvin College prepare students for admission to the various professional schools and, in some cases, through cooperation with other institutions, for completion of professional programs while at Calvin. In most cases students may qualify for a degree from the college as well as from a professional program, if they meet the appropriate requirements.

ARCHITECTURE

The first two years of an architecture program may be completed at Calvin College. Students interested in such a program should consult Mr. Edgar Boevé of the Art Department or Mr. James Bosscher of the Engineering Department. The program incorporates a significant portion of the basic core curriculum as well as of the preprofessional requirements of the profession. A typical program would be:

<i>First year</i>	COURSES
Art 231	1
Engineering 101	1½
Mathematics 111, 112	2
Christian Perspective 100 (interim)	1
Economics 151	1
Philosophy 153	1
Speech	½
Physical education	½
<i>Second year</i>	COURSES
Art, studio drawing or design	2
Chemistry, if none in high school; biology; or psychology	1
Physics 221, 222	2
Economics, history, political science, or sociology	2
Literature	1
Religion and Theology 103, 206, 301	1
Physical education	½

BUSINESS ADMINISTRATION

A curriculum concentration emphasizing the principles of business administration is offered in the Department of Economics. This program has a dual purpose: to furnish a thorough understanding of the principles and analytical tools which have been developed within the discipline of economics for the social organization of limited resources, and to provide a competence in the handling of these principles and tools as they are applicable to the efficient administration of business enterprises.

This concentration is designed to prepare students for graduate studies in business administration as well as to provide maximum undergraduate academic preparation for students desiring to follow business careers directly upon graduation. Students interested in either program should consult the chairman of the department, Mr. Tony Brouwer.

ENGINEERING

Students planning to enter the preengineering program should consult with Mr. James Bosscher, chairman of the Department of Engineering, when arranging their programs. Students wishing to graduate from

Calvin College on the combined curriculum plan must complete twenty-seven courses approved by the department, with a cumulative grade point average of C (2.0). Upon satisfactory completion of this program, plus approximately three semesters of successful work in a recognized school of engineering, the student will be eligible for the degree of bachelor of science on the combined curriculum plan in science and engineering.

A typical program for engineers is given below. With the advice of the engineering faculty, a student may select from the electives and options indicated those courses which meet his interests and the program of the school to which he intends to transfer. Half courses Engineering 312 and Physics 381 are also recommended.

<i>First year</i>	COURSES
Chemistry 103	1
Engineering 101	1½
Mathematics 111, 112	2
Physics 126	1
CPOL 100 or religion and theology	1
Economics 151	1
Non-technical elective	1
English 100	1
Speech 100	½
Physical education	½
 <i>Second year</i>	
Engineering 205	1
Engineering 202, 303, 305, 309, or 310	1
Mathematics 211, 212	2
Physics 225, 226	2
Digital computer lectures	0
Economics or English	1
Philosophy 153	1
Non-technical interim	1
Physical education	½
 <i>Third year</i>	
Engineering 202, 303, 305, 309, 310	2
Technical elective, from 200 or 300 level courses in biology, chemistry, engineering, mathematics, or physics	2
Interim, engineering	1
Literature	1
Philosophy, 200 series course	1
Religion and Theology 103, 206, or 301	1
Non-technical elective	1

LAW

Students who plan to enter a law school upon graduation from Calvin College are expected to complete the requirements for a Bachelor of Arts degree as these are listed on pages 42-45. The selection of the program of concentration should be made in consultation with Mr. Johan Westra, the prelaw adviser.

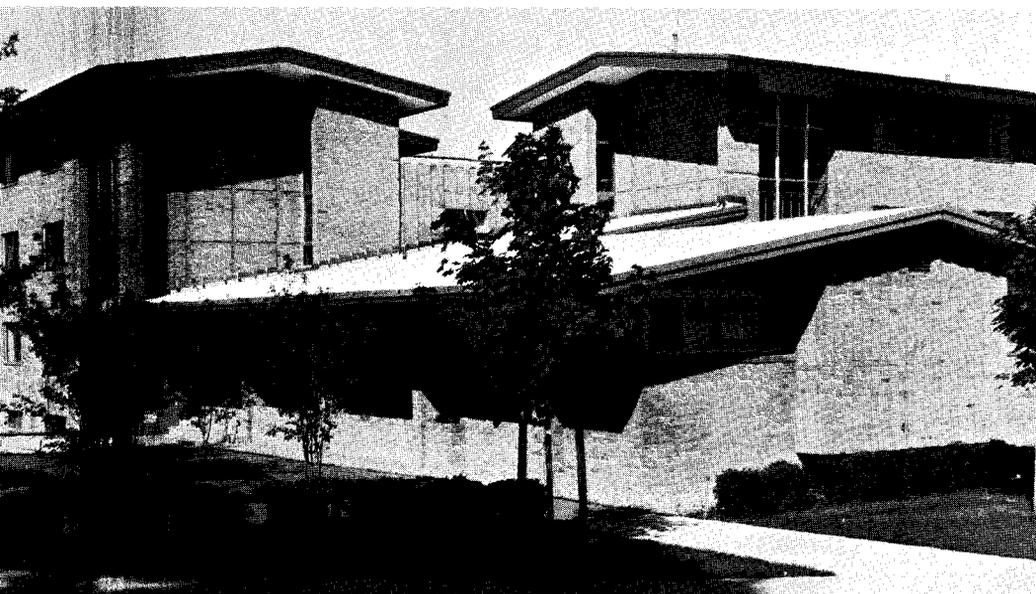
MEDICINE AND DENTISTRY

All students planning to enter any one of the premedical or pre dental courses should consult Mr. Henry Bengelink, faculty director of the premedical and pre dental programs. Students should also note the premedical entrance requirements on page 20.

Students who began their work in September, 1967, or later should take a program of concentration which includes Chemistry 103-104, 201, 204, and 301-302; Biology 151, 152, 251, 252, and 321; and Physics 221-222 or their equivalent. Mathematics 111 and 112 are strongly recommended.

All students who began their program prior to 1967-68 should include in their program of concentration Chemistry 103-104, 201, 204, and 301-302; and Physics 221 and 222 or their equivalent. In addition to the chemistry and physics courses, these students should include in their program Biology 109-110, 207, 208 and 311 or 321.

Most medical and dental schools strongly advise students to take a four-year college course. Those students, however, who wish to secure a baccalaureate degree from Calvin College on the combined curriculum plan should complete twenty-seven courses with a minimum grade point average of C (2.0), including one of the programs prescribed above, and as much of the required core curriculum as possible. For their electives, students should choose such subjects as are required for admission to the particular medical or dental school which they expect to attend. Upon satisfactory completion of this course, and one year of successful work in a recognized



medical or dental school, the student will be eligible on the combined curriculum plan for the degree of Bachelor of Science in Letters and Medicine or Bachelor of Science in Letters and Dentistry.

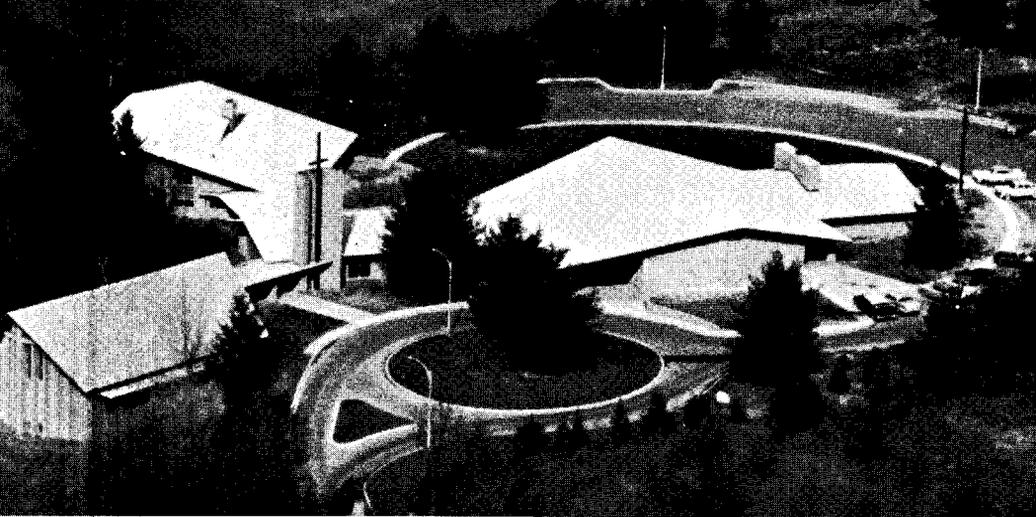
It is the responsibility of the student who desires to secure a baccalaureate degree on the combined curriculum plan to notify the registrar's office by April 1 of the year in which he expects to receive the degree.

MEDICAL TECHNOLOGY

To qualify for the Bachelor of Science in Medical Technology on the combined curriculum plan a student must complete twenty-seven courses plus twelve months of successful work in an accredited school of medical technology. Students wishing to enter the medical-technology program should consult Mr. Herman Broene. The following courses are prescribed: Biology 151, 152, 251, 252, and 336; Chemistry 103, 104, and three elective from among 201, 204, 253, 254, 301, 302, and approved interim courses; English 100 plus a course in English or American literature; two courses in foreign language (the number of courses in foreign language may be reduced by one for each year of foreign language taken in high school); one course in each of the following subjects: history; mathematics; music or art; political science or economics; philosophy, psychology, or sociology; two courses in religion and theology; one elective; and three interim courses, one of which should be a course designed for the premedical technology student offered by the Biology Department; and four semesters of physical education.

A typical student program is as follows:

	COURSES
<i>First year</i>	
Biology 151, 152	2
Chemistry 103, 104	2
Foreign language (See paragraph above)	2
English 100	1
History 101	1
Interim	1
Physical education	½
<i>Second year</i>	
Biology 251, 252	2
Chemistry 201, 204, 253, 254, 301, or 302	2
Other required courses	4
Interim	1
Physical education	½
<i>Third year</i>	
Biology 336	1
Chemistry	1
Other required courses	4
Free elective	1
Interim, biology	1



THE MINISTRY

Calvin College, the college of the Christian Reformed Church, maintains a close relationship with Calvin Theological Seminary, the seminary of the Christian Reformed Church. Calvin Theological Seminary is a fully accredited member of the American Association of Theological Schools and is maintained primarily to provide theological education for those aspiring to the ministry of the Christian Reformed Church. The seminary stands as a representative of the historic Reformed faith, its theological standpoint being formulated in the Belgic Confession, the Heidelberg Catechism, and the Canons of Dort.

A student seeking to qualify for admission to Calvin Theological Seminary should meet all of the regular requirements for a Bachelor of Arts or a Bachelor of Science degree as well as the specific course requirements of the seminary. To qualify for admission as a degree candidate, he should earn a grade-point average of 2.67 or higher. A student may present a concentration in either a single department or in a group of related departments, as provided in the college curriculum. In either program a minimum of seven courses must be presented in a single department.

Calvin Seminary requires the following courses for admission:

	COURSES
Economics, political science, and/or sociology	2
English	3
Greek	4
History	3
Latin (May be met by two years in high school)	2
Modern language (See paragraph below)	
Science	2
Philosophy	3
Psychology and/or education	2
Religion and theology	2
Speech	1½

Reading competence in Dutch, French, or German is required. This competence may be demonstrated either by taking three years of course work or by sustaining the seminary's admission reading test.

In fulfilling the course requirements listed above, the student is advised to include the study of New Testament Greek, a sequence in the history of philosophy, and a course in the history of classical civilization. In view of its importance to Reformed theological scholarship, the study of Dutch is recommended as the first choice in fulfilling the modern language requirement; and in view of its general usefulness for the study of theology, the study of German is recommended as the second choice.

In selecting the courses for his pre-seminary program, the student should consult with the chairman of the department of his primary concentration or Mr. Bert Bos, chairman of the Pre-Seminary Advisory Committee.

NURSING

The nursing courses at Blodgett Memorial Hospital in Grand Rapids, Michigan, are so arranged that the first nine months of the thirty-months program are taken concurrently at the college and at Blodgett Hospital. During the first semester students will take Biology 105 and 107, English 100, and Psychology 151 at the college and Basic Nursing I at Blodgett Hospital. During the second semester students will take Biology 106, Sociology 151, and Speech 100 at the college and Chemistry 101, Basic Nursing II, and Nutrition in Health and Disease at the hospital.

Upon completion of the work at Calvin College and Blodgett Hospital, the student is granted a diploma in nursing by the Blodgett Memorial Hospital School of Nursing. She is then eligible to write the examinations given by the Michigan Board of Registration of Nurses, and upon passing these examinations receives a certificate to practice as a registered nurse.

Persons wishing to take the nursing program must make application with both the director of the School of Nursing at Blodgett Memorial Hospital and with the admissions officer of Calvin College. Applications for admission to both institutions should be submitted during the early part of the senior year in high school. No application will be processed until all required forms are available to the director of the Blodgett Hospital School of Nursing. Admission to the nursing program is determined by the admissions committee of the School of Nursing.

OTHER PROFESSIONAL PROGRAMS

Students interested in preparing for any profession should see the registrar of the college. Curricula can be arranged to enable such students to remain at Calvin for one or two years.

DESCRIPTION of COURSES

The symbols F (Fall), I (Interim), and S (Spring) indicate when each course is offered. The term *core* designates those courses in each department which meet the general graduation or core requirements of the discipline. The few courses which carry more or less than a single course credit are indicated; all others carry a single course credit. Interim courses numbered 1-19 are open to freshmen and sophomores; those numbered 20-29 are open to sophomores and juniors; and those numbered 30 or higher are open to juniors and seniors; those numbered 40 or higher are open to any student.

The asterisk(*) before the name of a faculty member indicates he will be on leave of absence for one or both semesters of the 1969-70 academic year. Such information is subject to change.

Interdisciplinary courses

100 CHRISTIAN PERSPECTIVES ON LEARNING. F, I, S. An introductory study of the relations between Christian faith and learning. Beginning with a consideration of some contemporary alternatives and challenges to Christianity, the course proceeds to an examination of current statements of the nature of Christian faith and discipleship. The course culminates in an examination of how different views of Christian faith and its relation to culture produce different kinds of secular and Christian colleges. The ground is thus laid for a critical examination of one's academic experience at Calvin College. Taught by a committee representing the several disciplines and open to freshmen and sophomores. *Staff.*

1969-70 INTERIMS

21 MIND AND BRAIN. The relationship between mind and brain will be studied from points of view which range from the philosophical to the biological. Different models of the mind and the brain will be examined, with an eye toward (1) understanding the empirical roots and formal structure of individual models, and (2) tracing the similarities between different models in attempts to synthesize various viewpoints. Prerequisite: one course in philosophy. *Mr. Entingh, Mr. C. Orlebeke.*

22 CHRISTIANITY AND THE CONTEMPORARY INTELLECTUAL. Levels II and III. A critical examination of the prob-

lems of relating Christianity to contemporary intellectual outlooks, focusing on the approach of Francis Schaeffer, and considering various alternatives to his approach. Up to eight students may complete this course in L'Abri, Switzerland, provided proper arrangements are made with the instructors. *Mr. Mouw, Mr. Marsden.*

29 **THE FILM.** Levels II and III. The course will examine the development, structure, and values of the film as an art form. In keeping with the film's uniqueness as a form drawing upon all of the fine arts, the course will be staffed by members of the several departments of the fine arts. Viewing of films will be followed by analysis and evaluation implemented by lectures, group discussions, supplementary readings, and student reports. *Mr. Boevé, Mrs. Boevé, Mr. Hook, Mr. Van Der Weele, Miss Walters.*

31 **A STUDY OF GEORGE F. KENNAN'S PERSPECTIVE ON UNITED STATES-SOVIET RELATIONS.** This course will involve a study of the writings and ideas of George F. Kennan, former United States Ambassador to the Soviet Union and one of America's most knowledgeable scholars of modern Russia. Mr. Kennan's books and articles will be the main source of course material. *Mr. Bolt, Mr. De Borst.*

40 **C. S. LEWIS, LITERARY THEOLOGIAN.** A study of selected works of C. S. Lewis,

exclusive of his children's literature, with emphasis on Lewis' view of the Christian life, his rationale for Christianity, and his insight into the psychology of fallen men in a fallen universe. *Mr. W. De Boer, Mr. Tiemersma.*

41 **HISTORICAL ROOTS OF RACISM IN AMERICA.** This course will probe the historical origins of the white American's thoughts about Negroes. *Mr. Greydanus, Mr. Spoelman.*

42 **CREATIVE TEACHING.** A study of creative teaching in the elementary classroom. Determining a Christian concept of creativity will be the main concern of the course. *Mr. Holquist, Miss Walters.*

43 **DIAGNOSIS AND REMEDIATION OF EMOTIONAL DISTURBANCES THROUGH ART.** An investigation of how certain drawing tests, and works of art also, can be used to diagnose some kinds of mental and emotional disfunction. The students will also investigate the use of art as adjunctive therapy in the treatment of mental illness. *Mr. Overvoorde, Mr. Youngs.*

44 **RELIGIOUS CULTS IN AMERICA.** A study of various religious cults in America from both theological and sociological points of view. The historical and social matrix in which the cults have arisen will be examined, and the common traits and distinctive teachings of the cults will be set forth and evaluated. *Mr. Primus, Mr. Smit.*

Art

*Associate Professor *Boevé (acting chairman)*

Assistant Professor Jensen

Instructors Bonzelaar, C. Huisman, Matheis, Overvoorde

THE ART PROGRAM at Calvin has been conceived within the framework of the liberal arts tradition with a program for those who wish to teach art in the elementary and secondary schools. Students intending to major in the field must secure a minimum grade of C (2.0) in 207. The minimum major program is 207, 208, 209, 210, 220, 231, 232, 301, 302, 332 or 340. During the spring semester of their senior year all art majors will be required to present an art exhibition on campus. The program for secondary education is: 206, 207, 208, 209, 210, 220, 231, 232, and 301.

The core requirements in the fine arts may be met by 151, 231, 232, 332, or 340.

151 **INTRODUCTION TO ART.** F and S, core. Lecture and participation in the basic elements and principles of art. Emphasis placed upon the student's involvement and response to materials and ideas. Not ordinarily a part of major or minor program. *Staff.*

206 **PRINCIPLES OF ART EDUCATION.** F and S. A course emphasizing methods and techniques of organizing and motivating art instruction. It includes lectures, demonstrations, and art teaching experiences in the school situation. Research paper required. Prerequisites: 151 or 207. *Mrs. Bonzelaar.*

207 **DESIGN I.** F. Discovery of design through the use of the basic art elements: line, color, shape, texture, space, value. *Mr. Huisman, Mr. Jensen, Mr. Matheis.*

208 **DESIGN II.** S. Continuation of 207. Expressive use of design with special emphasis on color. Prerequisite: 207. *Mrs. Bonzelaar, Mr. Jensen, Mr. Huisman.*

209 **DRAWING.** F and S. Various media are used to explore the possibilities and problems in drawing from a creative, personal point of view. Famous artists of the past and present will be studied to acquaint the student with a variety of approaches to the medium. Prerequisites: 207, 208. *Mr. Matheis, Mr. Overvoorde.*

210 **THREE-DIMENSIONAL DESIGN.** S. Construction, carving, and modeling in various materials will be pursued in relation to problems in space, movement, balance, rhythm, and integration of the total form. Prerequisites: 207, 208, 209. *Mr. Huisman.*

220 **PRINTMAKING.** F. The course aims to give the student experience in the basic printmaking media: relief, intaglio, planography, serigraphy. Prerequisites: 207, 208, 209. *Mr. Jensen.*

231 **AN INTRODUCTION TO THE HISTORY OF THE FINE ARTS.** F, core. A survey of the history of architecture,

painting, and sculpture in Ancient, Medieval, and Renaissance times. A study of the character of ancient art from Egypt through Rome is followed by a study of medieval art from its beginning in the early days of the Christian era to its climax in the Gothic period of the thirteenth century. This course will be concluded with an introduction to the art of the Renaissance in Italy to 1500. A major research paper will be required. *Mr. Boevé.*

232 **AN INTRODUCTION TO THE HISTORY OF THE FINE ARTS.** S, core. Continuation of 231. The study of painting and architecture from 1500 to the present. Art gallery reports will be required. *Mr. Boevé.*

301 **PAINTING I.** F and S. A study of the tradition in painting, emphasizing techniques, and methods of communicating ideas visually. Studio work will give opportunity to experiment in various techniques and subjects. Prerequisites: 207, 208, 209. *Mr. Overvoorde.*

302 **PAINTING II.** F and S. Continuation of 301. Prerequisites: 207, 208, 209, 301. *Mr. Overvoorde.*

332 **DUTCH PAINTING.** S, core. A course in Dutch painting from the Renaissance to Modern times. Emphasis will be on the seventeenth century. *Mr. Overvoorde.*



340 CONTEMPORARY PAINTING AND ARCHITECTURE. F, core. A study of painting from Impressionism to the present with emphasis on Expressionism, Abstractionism, Non-objectivism, and Abstract Expressionism. Architecture is studied in relation to programming, technology, materials, and site, beginning with Sullivan, Eiffel, and Gaudy, and continuing into the twentieth century with Wright, Le Corbusier, Mies vander Rohe, and Saarinen. Outside reading and papers will be required. *Mr. Boevé.*

390 INDEPENDENT STUDY. F, I, S. A student wishing to register for the interim must submit a project to the chairman for his approval by December 10.

400 SEMINAR.

1969-70 INTERIMS

40 PRODUCT DESIGN. This course is primarily a studio course involving the student in projects which would develop

sensitivity to good design of functional forms. Sketching, drawing and model execution of furniture, small appliances, educational toys, and similar items will be the content of the course. *Mr. C. Huisman.*

41 CARTOONING - THE FINE ART OF HUMOR. A study of the fundamental vitality and general appeal of the cartoon form through history to the present. Many facets of this art will be explored, including story strips, caricature, editorial, social comment, fantasy, Christian outreach, and the nature of humor. Students will be involved in the creation of cartoons and introduced to the various techniques and materials fundamental to this art. *Mr. Jensen.*

42 ACRYLIC PAINTING. Acrylic painting in transparent and opaque techniques exploring color, texture, and design for beginners. *Mr. Matheis.*

44 ART TEACHING EXPERIENCES IN THE SCHOOL SITUATION. *Mrs. Bonzelaar.*

Astronomy

STUDENTS INTERESTED in graduate work in astronomy should major in mathematics and physics and should confer with the chairman of the Physics Department.

Biology

*Professors Gebben, Ten Broek (chairman), *Van Harn*
Associate Professors A. Bratt, Karsten
*Assistant Professors Beebe, Bengelink, *Klooster*
Lecturer T. Entingh
Professional Staff, Bosma

VARIOUS PROGRAMS of concentration in biology prepare a student for graduate study, for high school teaching, and for professional training in medicine and related fields. To be admitted to a concentration a student must have a minimum average of C (2.0) in 151 and 152 or in an equivalent program approved by the department.

The major program requires 151, 152, 251, 252, 261, 262; three additional courses selected from any three of the following biological sub-

disciplines: developmental biology (303), ecology (313), morphology (321, 326), physiology (331, 336), and systematics (341, 346); and the senior seminar. Required cognates include mathematics through the level of calculus and analytical geometry (Math. 111-112) or a year of college physics, and the completion of a second year of college chemistry.

The secondary school teaching major is essentially the same except that a total of nine courses is required in biology and the required cognates will constitute a minor in the area of the physical sciences.

The core requirement in biology may be met by 111 or any course numbered 151 or higher, except for 205-206.

NURSING PROGRAM COURSES

105 HUMAN ANATOMY AND PHYSIOLOGY FOR NURSES. F. An introduction to the study of human biology, including elements of anatomy, histology, and physiology. *Mr. Karsten.*

106 HUMAN ANATOMY AND PHYSIOLOGY FOR NURSES. S. Continuation of 105. Prerequisite: 105. *Mr. Karsten.*

107 MICROBIOLOGY FOR NURSES. F. An introduction to the principles and techniques of microbiology, with emphasis on the bacteria. *Staff.*

GENERAL COLLEGE COURSES

111 BIOLOGICAL SCIENCE. F and S, core. An introduction to the principles and concepts of biology and the history and philosophy of biological thought for the general college student. Prerequisites: Mathematics 109, Physics 110. *Staff.*

205 HUMAN ANATOMY AND PHYSIOLOGY. S. A study of the normal biological structure and function of man. Prerequisite: Biology 111. *Staff.*

206 NATURAL HISTORY. F. An introduction to the study of plants and animals in their natural environment with emphasis upon the conspicuous components of the local flora and fauna. The course will provide acquaintance with major concepts and methods used in field biology and will provide experience in identification of plants and animals. Prerequisite: Biology 111. *Mr. Bengelink.*

PROGRAM OF CONCENTRATION COURSES

Any of the following courses may be used to fulfill the general college core requirement in biology. Biology 151, 152, 251, and 252, or their equivalents are prerequisite to all other courses.

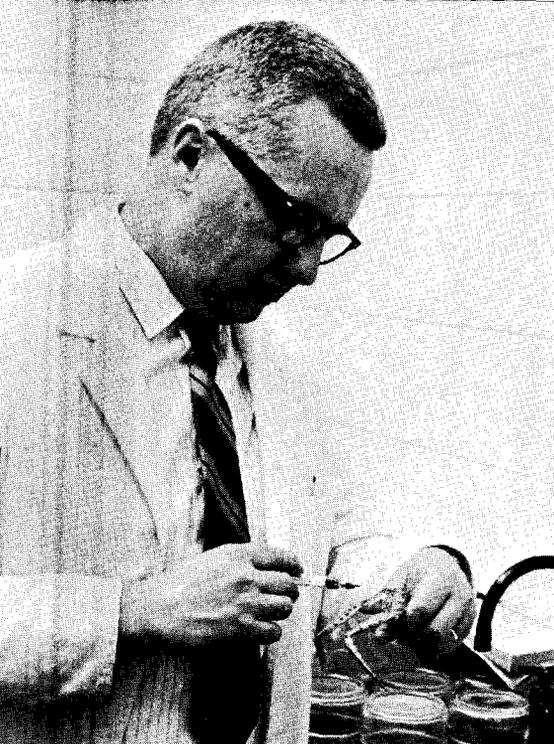
151 CELL BIOLOGY. F. A study of cellular, subcellular, and molecular structure and function. Cell theory is developed as a basis for study in other areas of biology. *Staff.*

152 GENETICS AND EVOLUTION. S. A study of the development of contemporary concepts of the gene and of organic evolution. The gene theory and the theory of organic evolution are developed as bases for study in other areas of biology. Prerequisite: Biology 151. *Staff.*

251 ORGANISM BIOLOGY I — ANIMAL STRUCTURE AND FUNCTION. F. A study of animal morphology and physiology with emphasis on the vertebrate organism. Principles of homeostasis and complementarity of structure and function are emphasized. Prerequisites: Biology 151-152. *Staff.*

252 ORGANISM BIOLOGY II — PLANT STRUCTURE AND FUNCTION. S. An introduction to the anatomy and physiology of plants with emphasis on the seed plants. Prerequisites: Biology 151, 152, 251. *Staff.*

261 ANIMAL DIVERSITY. F, quarter course. A systematic study of the classification, morphological patterns, and adaptations of vertebrates and inverte-



brates. Prerequisites: 152 or its equivalent; concurrent enrollment in 251 is recommended. Not offered 1969-70.

262 PLANT DIVERSITY. S, quarter course. A systematic study of the classification, morphological patterns, and adaptations of vascular and non-vascular plants. Prerequisites: 152 or its equivalent; concurrent enrollment in 252 is recommended. Not offered 1969-70.

303 DEVELOPMENTAL BIOLOGY. S. An introduction to the study of biological development, including both embryonic and post-embryonic systems. Additional prerequisite: Chemistry 254 or its equivalent. *Mr. Ten Broek.*

313 GENERAL ECOLOGY. F. An introduction to the study of biological populations and communities, including discussions of biogeographic regions, the ecosystem concept, and interactions of organisms with the biotic and abiotic environment. *Mr. Gebben.*

321 DEVELOPMENTAL AND COMPARATIVE ANATOMY. S, one and a half courses. A study of the development and com-

parative anatomy of vertebrates. Four hours of lecture and two laboratory sessions per week. *Mr. Bengelink.*

326 PLANT MORPHOLOGY — NON-VASCULAR PLANTS. F. A consideration of structure, life cycles, and phylogeny of the algae, fungi, and bryophytes. *Mr. Karsten.*

331 COMPARATIVE ANIMAL PHYSIOLOGY. S. A comparative study of basic functional mechanisms of animals. Additional prerequisite: Chemistry 254 or equivalent. Not offered 1969-70.

336 GENERAL MICROBIOLOGY. S. A study of the structure and function of microorganisms with emphasis on the bacteria. Additional prerequisite: Chemistry 254 or equivalent. *Staff.*

341 ENTOMOLOGY. F. The biology of insects, with emphasis on systematics. *Mr. A. Bratt.*

346 PLANT TAXONOMY. S. An introduction to the principles and concepts of plant systematics. *Mr. Gebben.*

390 INDEPENDENT STUDY. I. Prerequisites: 400 and permission of the chairman. *Staff.*

400-401 SENIOR SEMINAR. F. and S, half course per semester. The reading, discussion, and evaluation of journal literature in biology and the investigation of an assigned laboratory, field, or library research problem in biology. Prerequisite: senior status in biology program of concentration. *Staff.*

1969-70 INTERIMS

10 BIOTIC COMMUNITIES IN FLORIDA. Applies to secondary education majors. A study of Florida's flora and fauna as components of selected terrestrial and aquatic biotic communities. Environments to be studied include the seashore, the coral reef, the dunes, the everglades, the forests, and the fresh water lakes. Emphasis is placed upon training in field biology techniques including identification, collection, and preservation of biological materials. *Mr. Gebben, Mr. Ten Broek.*

20 **HUMAN GENETICS, EUGENICS, AND EUPHENICS.** Levels II and III, applies to elementary science programs. Recent developments in human genetics with emphasis on their implications in biological engineering and genetic tailoring of "custom-made" individuals. *Mrs. En-tingh.*

21 **MAMMALIAN ANATOMY.** Levels II and III, applies to elementary science programs. A study of mammalian anatomy by way of the laboratory dissection of two representative mammals. *Mr. Bengelink.*

22 **REGULATION OF PLANT GROWTH**

AND DEVELOPMENT. Applies to elementary science programs. *Mr. Beebe.*

23 **CONSERVATION.** Applies to elementary science programs. A study of problems resulting from man's impact on his environment. Emphasis and readings will be on problems of conservation whose solutions are derived from the application of biological principles. *Mr. A. Bratt.*

41 **PLANTS AND CIVILIZATION.** Applies to elementary science programs. A study of the role of plants in man's economic, cultural, and political history. *Mr. Karsten.*

Chemistry

Professors Broene, Dirkse, Wolhuis (chairman)

Assistant Professors Piers, L. Vander Lugt, Van Doorne

PREREQUISITE TO BEING admitted to a concentration in chemistry is a minimum average of C (2.0) in 103, 104, and 201.

For students who do not plan to pursue graduate study in chemistry, additional courses required are: 277-278 and either 253-254 or 301-302. Required cognates are Mathematics 111-112 and a year of college physics.

For students preparing for graduate study in chemistry, the certification requirements of the American Chemical Society for professional training in chemistry may be met by completing the courses: 103-104, 201, 277-278, 301-302, 305, 309, 310, at least one chemistry interim course; Mathematics 111-112, 211-212; Physics 126 and 225-226. A reading knowledge of German and, if possible, of French is required.

The group major for students preparing for secondary school teaching includes: 103-104, 201, 204 or 277, 253-254 or 301-302, one from 278, 305, or an interim course in chemistry; and two courses in physics on the 200-level or higher. A minimum of eleven courses in two departments is required.

The core requirement in the physical sciences may be met by 103-104, by any course numbered higher, or by interim 40.

101 **CHEMISTRY FOR NURSES. S.** A one-semester survey of inorganic, organic, and biological chemistry as applied in the field of medicine. A course specifically for students in the regular pre-nursing curriculum. *Mr. Dirkse.*

103 **GENERAL CHEMISTRY. F.** A study of the basic principles of chemistry, with emphasis on the laws of chemical combination, theories of atomic structure and chemical bonding, the periodic law, kinetic theory, and chemical and physical

equilibria. Laboratory. A high school chemistry course is strongly recommended. *Staff.*

104 GENERAL CHEMISTRY. S, core. A continuation of 103, with emphasis on acid-base theory, reaction rates, ionic equilibria, redox reactions, electrochemistry, and nuclear chemistry. The laboratory work involves the systematic separation and identification of cations and anions. Laboratory. Prerequisite: 103. *Staff.*

113 FUNDAMENTALS OF CHEMISTRY. F. The fundamental concepts of chemical science are presented together with selected topics in descriptive chemistry. Emphasis will be placed on the language of chemistry, the mole concept, chemical bonding, stoichiometry, equilibrium processes, periodicity, and on selected topics from descriptive inorganic and organic chemistry. Laboratory. Prerequisite: Physics 110, 112, or high school physics. *Mr. Vander Lugt.*

201 QUANTITATIVE ANALYSIS. F. A study of the theory and practice of titrimetric and gravimetric methods of analysis. Laboratory. Prerequisite: 104. *Mr. Dirkse.*

204 INTRODUCTORY THEORETICAL CHEMISTRY. S. A study of the states of matter, properties of solutions, chemical kinetics, and the colloidal state. This course treats some of the topics also

covered in Chemistry 277-278, but is designed for students who have not had Mathematics 111-112. Prerequisite: 201. *Mr. Broene.*

253 ORGANO-BIOCHEMISTRY. F. A study of organic compounds, reactions, and reaction mechanisms, emphasizing their biochemical significance. Laboratory. Prerequisite: 104. *Mr. Wolthuis.*

254 ORGANO-BIOCHEMISTRY. S. A continuation of 253, concluding with a study of the chemistry of metabolism and the application of quantitative methods to the analysis of blood components. Laboratory. Prerequisite 253. *Mr. Wolthuis.*

277 PHYSICAL CHEMISTRY. F. A study of the kinetic theory as applied to gases, liquids, and solids; introduction to thermodynamics. Prerequisite: 104, Mathematics 112, and a high school physics course. *Mr. Broene.*

278 PHYSICAL CHEMISTRY. S. A continuation of 277, with a study of electrochemistry, chemical thermodynamics, and kinetics. Laboratory. Prerequisite: 277. *Mr. Dirkse.*

301 ORGANIC CHEMISTRY. F. A detailed study of organic compounds, their synthesis and reactions, presented within the framework of modern physico-chemical theory, together with an introduction to modern methods of analysis and identification. Laboratory. Prerequisite: 104, and preferably 201. *Mr. Piers.*

302 ORGANIC CHEMISTRY. S. A continuation of 301. Laboratory. Prerequisite: 301. *Mr. Piers.*

305 ORGANIC ANALYSIS. F. A study of qualitative and quantitative chemical and instrumental methods useful for the separation and identification of organic compounds. Selected reactions are considered in detail with respect to their mechanisms and the experimental basis for these mechanisms. Laboratory. Prerequisite: 302. *Mr. Wolthuis.*

309 ADVANCED QUANTITATIVE ANALYSIS. S. A study of optical, electrometric, chromatographic, and radiochemical methods of analysis, with emphasis on



their theoretical bases. Laboratory. Prerequisites: 201, 277. *Mr. Dirkse.*

310 **ADVANCED INORGANIC CHEMISTRY.** S. A study of the chemical elements from the standpoint of periodicity and the nature of chemical bonding. Crystal field theory and ligand field theory are discussed in connection with the chemistry of the transition elements. Laboratory. Prerequisite: 278. *Mr. Van Doorne.*

390 **SENIOR RESEARCH.** S. Library and laboratory research on an assigned problem. Open only to approved seniors majoring in chemistry. *Staff.*

400 **SEMINAR.**

1969-70 INTERIMS

10 **INTRODUCTORY RADIOCHEMISTRY.** A study of natural and induced radioactivity and nuclear reactions. This involves basic theory as well as practical applications of radio-isotope technology to

chemical systems. Some laboratory work. Prerequisite: 103. *Mr. Broene, Mr. Van der Lugt.*

30 **POLYMER CHEMISTRY.** A study of the synthesis and properties of polymers and other high-molecular weight compounds. Prerequisite: 253 or 301. *Mr. Van Doorne.*

31 **ORGANIC SYNTHESIS.** Introduction to the systematic design and execution of efficient synthesis of organic compounds and to a survey of some modern synthetic reactions in organic chemistry. Some laboratory work. Prerequisite: 301. *Mr. Piers.*

40 **ORGANIC CHEMISTRY IN DAILY LIFE.** Physical science core. A survey of the applications of organic chemistry in everyday human experience, including a review of the historical development of organic chemistry. Prerequisite: high school chemistry. *Mr. Wolthuis.*

Classical languages

Professors R. Otten (chairman), Radius, Wevers
Associate Professor Harris
Assistant Professor Van Vugt

THE DEPARTMENT OFFERS THREE programs of concentration: Classics, Greek, and Latin. The Classics program is followed by those preparing for graduate studies, the Greek by pre-seminarians, the Latin by those intending to teach the language at the secondary school level.

The Classics program requires fourteen courses and one interim, including six elementary or intermediate courses chosen from: Latin 201-202, Greek 101-102, 201-202, 203-204; six intermediate or advanced courses selected from: Latin 205-206, 301-302, 303-304; Greek 201-202, 203-204, 301, 302; and two courses in ancient history (Greek 311 and Latin 312). Reading competence in French and German is strongly recommended.

The Greek program requires eight courses selected from: Greek 101-102, 201-202, 203-204, 205, 206, 301, 302, 311, and Latin 312. The recommended program for pre-seminarians is the following: Greek 101-102, 201-202 or 203-204, 205, 206, 311, and Latin 312.

The Latin program requires ten courses (nine, if the student presents two units from high school, and eight, if the student presents three or more units from high school) selected from Latin 101-102, 201-202, 205-206, 301-302, 303-304, 312, and two interims.

A Latin teaching minor requires five courses beyond the 100 level and a course in Latin prose composition.

Students who have completed one year of high school Latin should enroll in Latin 101; two years, in 201; three years, in either 202 or 205; more than three years, in 205 or 206. Those who have completed one year of college Latin should enroll in 201.

The core requirements in the fine arts may be met by Greek 301-302, any Latin course numbered 202 through 304, and interims 20 and 40.

GREEK

101 ELEMENTARY GREEK. F. Text: Crosby and Schaeffer, *An Introduction to Greek*. *Mr. Radius*.

102 ELEMENTARY GREEK. S. Continuation of 101. Completion of the text and the reading of the first book of Xenophon's *Anabasis* or its equivalent. *Mr. Radius*.

201 INTERMEDIATE GREEK A. F. Readings in the early dialogues of Plato. Special emphasis is put on gaining reading proficiency in Greek prose. Prerequisite: 102. *Mr. R. Otten*.

202 INTERMEDIATE GREEK A. S, core. Readings in Homer's *Iliad*. Attention is given to the characteristics of Homer's world. Prerequisite: 201 or 203. *Mr. R. Otten*.

203 INTERMEDIATE GREEK B. F. Readings of selections from Herodotus. Special emphasis is put on gaining reading proficiency in Greek prose, with some attention to the characteristics of Herodotus as historian. Further readings from the Attic orators. Prerequisite: 102. *Mr. Wevers*.

204 INTERMEDIATE GREEK B. S, core. Continued readings in the Attic orators. Attention is given to certain matters of style. The orators are viewed in relation to, and as documentation for, the history of fourth-century Athens. The course concludes with selected readings from Thucydides. Here, too, special attention is given to his style as well as to his characteristics as historian. Prerequisite: 203 or 201. *Mr. Wevers*.

205 NEW TESTAMENT GREEK: THE GOSPELS. F. The Gospel according to

St. Mark is read with some notice of the parallel passages in the other Gospels. A study is made of the special features of Hellenistic Greek. The significance of lexical and syntactical detail for the interpretation of the text is everywhere emphasized. Prerequisite: 102. *Mr. R. Otten, Mr. Radius*.

206 NEW TESTAMENT GREEK: THE EPISTLES. S. A study is made of some of the Pauline Epistles. Prerequisite: 205. *Mr. R. Otten, Mr. Radius*.

301 PLATO'S REPUBLIC. F, core. The Greek text is studied. This course aims at an understanding and evaluation of Plato's views as presented especially in the *Republic*. Prerequisite: Four courses in Greek. *Mr. Harris*.

302 GREEK DRAMA. S, core. A reading of selected Greek tragedies with attention given to their poetic and dramatic qualities. Those matters of Greek culture, literary tradition, and history which help to understand the plays are noted. Assigned outside reading in other Greek plays. Prerequisite: 301. *Mr. Harris*.

311 GREEK HISTORY. F. The political, social, and cultural history of the Greek city-states up to the time of the Roman conquest. Some attention is also given to the history of the Near and Middle East. *Mr. Harris, Mr. Radius*.

LATIN

101 ELEMENTARY LATIN. F. For students who have had only one unit of high school Latin or who have had no Latin. Emphasis is placed on the essentials of grammar and a basic vocabulary with constant comparison to Eng-

lish. *Sententiae* from the principal Latin authors will be read. *Mr. Van Vugt.*

102 **ELEMENTARY LATIN.** S. A continuation of 101. Emphasis is placed on grammar and the early reading of longer selections of authentic Latin dealing with Roman history and culture. Prerequisite: 101 or its equivalent. *Mr. Van Vugt.*

201 **INTERMEDIATE LATIN.** F. A thorough review of the essentials of grammar will accompany the reading of selected Latin prose. Prerequisite: two units of high school Latin or two courses of college Latin. *Staff.*

202 **INTERMEDIATE LATIN: VERGIL AND THE ANCIENT EPIC,** S, core. A study of the *Aeneid* and the ancient epic in translation. Selected books in the *Aeneid* will be read in Latin with a study of the prosody of Vergil. Prerequisite: three units of high school Latin or three courses of college Latin. *Staff.*

205 **READINGS IN LATIN LITERATURE.** F, core. Intensive reading in the major writers of prose from the Late Republic to the Early Empire. Collateral readings in the literary history of the period. Prerequisite: 202. *Mr. Van Vugt.*

206 **READINGS IN LATIN LITERATURE.** S, core. Intensive reading in the major writers of poetry from the Late Republic to the Early Empire. Collateral readings in the literary history of the period. Prerequisite: 202. *Mr. Van Vugt.*

301 **LATIN PHILOSOPHICAL LITERATURE: LUCRETIUS AND SENECA.** F, core. Selections from Lucretius and Seneca, designed to portray some of the major ethical and political issues raised in Roman thought. Collateral reading and reports. Prerequisite: 205 or 206. Alternates with 303. *Mr. R. Otten.*

302 **LATIN PHILOSOPHICAL LITERATURE: CICERO AND AUGUSTINE.** S, core. Readings in Cicero and Augustine, selected to complete the survey begun in 301 and to present the first major Christian critique of classical thought. Collateral readings and reports. Prerequisite: 205 or 206. Alternates with 304. *Mr. R. Otten.*



303 **LATIN LYRIC POETRY.** F, core. A study of Latin lyric poetry from Catullus through the elegiac poets, with some attention to early Christian and medieval poetry. Collateral reading and reports. Prerequisite: Latin 205 or 206. Alternates with Latin 301. *Mr. R. Otten.*

304 **TACITUS AND PLINY.** S, core. Readings in the historical works of Tacitus and the correspondence of Pliny as sources and commentary on the political issues and movements of the Early Empire. Collateral reading and reports. Prerequisite: Latin 205 or 206. Alternates with Latin 302. *Mr. R. Otten.*

312 **ROMAN HISTORY.** S. The history of Rome from the foundation of the city to A.D. 565, the death of Justinian. The emphasis falls on the development of the constitution and its effect upon, and how in turn it was affected by, the expansion of Rome over the Mediterranean. Economic, social, and literary history studied in their relation to the political. The decline of paganism and the rise of Christianity are viewed in their relation to each other. Prerequisite: Greek 311. *Mr. Harris, Mr. Radius.*

1969-70 INTERIMS

20 GREEK DRAMA. Core. A study of Greek tragedy and comedy. Lectures, class discussions, and special projects. These may include, subject to the individual interests of the students, research papers, either oral or written, adapting ancient plays to contemporary meaning and setting, or participating in the actual production of an ancient play. No knowledge of the Greek language is necessary. *Mr. Wevers.*

21 DIRECTED READING: LATIN. Level II and III. Readings in authors selected for the particular interests and needs of the individual student under the direction of a department member. Permission of instructor required. *Mr. R. Otten.*

22 DIRECTED READING: GREEK. Level II and III. Readings in authors selected for the particular interests and needs of the individual student under the direc-

tion of a department member. Permission of the instructor required. *Mr. R. Otten.*

30 THE ARROGANCE AND THE ORDEAL OF POWER: A STUDY IN ROMAN IMPERIALISM. A study in Roman imperialism in Ancient Italy and the Mediterranean world, defining the *character* of the Roman expansion, constantly emphasizing comparisons with modern manifestations of imperialism. The focus will be mainly on original sources, both Greek and Roman, which will be read in English translations. No knowledge of Greek or Latin is necessary. *Mr. Harris.*

40 CLASSICAL MYTHOLOGY. Core. A study of the Greek and Roman myths. *Mr. Van Vugt.*

41 LATE AND MEDIEVAL LATIN. Specimen readings in some of the important texts in post-classical Latin. *Mr. R. Otten.*

Dutch

Professor Lagerwey (program adviser), Queen Juliana Professor of Language and Culture of the Netherlands.
Associate Professor W. Bratt (acting chairman, Department of Germanic Languages).

PREREQUISITE to concentration in Dutch is a minimum average of C (2.0) in 101, 102, 201, and 202 for students without a background in the language or in 203 and 204 for those with. In addition to this basic language foundation a student must complete three courses from the 300 level and two interims approved by the department.

101 ELEMENTARY DUTCH. F. An introductory course in the comprehension and use of spoken and written Dutch. *Staff.*

102 ELEMENTARY DUTCH. S. Continuation of 101. *Staff.*

201 INTERMEDIATE DUTCH. F. Selected readings of modern Dutch prose and poetry. Review of grammar and syntax. *Staff.*

202 INTERMEDIATE DUTCH. S. Continuation of 201. *Staff.*

203 ADVANCED DUTCH. F, core. A course intended to serve students who

already have some knowledge of the Dutch language but who are deficient in their ability to speak, comprehend, and write the language.

204 ADVANCED DUTCH. S, core. A continuation of 203.

305 DUTCH CLASSICS. Core. Study and discussion of several Dutch literary texts representative of the classical and modern periods of Dutch literature.

306 DUTCH CLASSICS. Core. A continuation of 305.

307 READINGS IN DUTCH CHURCH HISTORY. F. A study, in the Dutch

language, of source documents pertaining to the history of the Reformed churches in the Netherlands during the period 1450-1700.

308 READINGS IN DUTCH CHURCH HISTORY. S. A continuation of 307 for the period 1700-1945.

309 NETHERLANDIC CIVILIZATION. A study conducted in the Dutch language of several important aspects of Netherlandic civilization: language, literature, history, religion, art, architecture, social structure, and education.

1969-70 INTERIMS

20 INTENSIVE COURSE IN SPOKEN DUTCH. Levels II and III. An advanced level course in listening and speaking Dutch. Students will be required to listen to recorded programs of Dutch cabaret, poetry, prose, and drama, and will discuss these in the Dutch language. *Mr. Lagerwey.*

40 DUTCH LITERATURE IN TRANSLATION. Analysis and discussion of classics of Dutch literature in English translation, both prose and poetry, from medieval, classic, and modern periods. Papers. *Mr. Lagerwey.*

Earth Science and Geography

Professor Griffioen (chairman, Department of Physics)
Assistant Professor Menninga

Students preparing for an elementary school certificate in general science studies, should take 113; those preparing in the social studies, may take either 101 or 113. The recommended three course sequence for either program is 113, 201, and 210.

101 PRINCIPLES OF GEOGRAPHY. F and S. A study of the principles of geography, including the geographer's tools and techniques, the physical earth as man's habitat, and some consideration of man's interaction with that environment. *Staff.*

113 EARTH SCIENCE. F and S. A study of the physical characteristics of the earth. It includes consideration of the place of earth in space, the structure of earth's crust and interior, rocks and minerals, and processes giving rise to changes in earth's crustal and surface features. Includes laboratory. Physics 100 or 112

are recommended as a prerequisite. *Mr. Menninga.*

201 INTRODUCTION TO GEOGRAPHY. F. A study of geography as a discipline including the following topics: cartography and map projections; climatic and physiographic regions; man's interaction with his environment—an introduction to cultural geography. Prerequisite: 113. *Mr. Menninga.*

210 GEOGRAPHY OF NORTH AMERICA. S. A study of physical and cultural geography of the continent of North America. Prerequisite: 201 or the equivalent. *Mr. Menninga.*

Economics

Professors Brouwer (chairman), Pruis
*Assistant Professors R. Bosscher, G. Monsma, *R. Vander Weele*
Assistant Instructor Lubbers

THE BASIC COURSE for the four programs of concentration in the department is 151, which all prospective majors must complete with a minimum grade of C (2.0). Students in the general program of concentration

must take 207, 321, 322, and six other courses, not more than two from 212, 313, 316, and 318. Students needing a nine course major for a secondary teaching concentration should select five courses instead of six from the last group. The business concentration requires 207, 212, 313, 316, 318, 321, 322, and two other courses in the department. Only one other course in the department is required for students in secondary education. Both of these programs also require two courses in mathematics for the social sciences (Math. 205-206), which should be taken during the sophomore year.

A group concentration is possible with five courses in economics including 207, 321, or 322, and three from any one of the following disciplines: history, political science, sociology, and psychology. A departmental core course must be included as part of the program. Interim courses may not be credited toward programs of concentration without departmental approval. A group concentration for secondary teaching includes 207, 321 or 322, and four additional courses in economics plus a minimum of three courses in one of the following disciplines: history, political science, psychology, or sociology.

The core requirement is met by 151.

151 PRINCIPLES OF ECONOMICS. F and S, core. A study of the principles of resource allocation, income distribution, prices, production, income levels, and economic growth. The course is designed to prepare the student for further work in economics, history, government, and sociology, and to help him to an understanding of basic domestic and international problems. *Staff.*

207 INTRODUCTION TO ACCOUNTING. F. An introduction to accounting, with emphasis on principles of asset valuation and income determination. Interpretation of financial reports published for investors and an introduction to the managerial uses of accounting. *Mr. Pruis.*

212 ACCOUNTING. S. Principles and methods of accounting for manufacturing and operating costs, with emphasis on cost analysis for managerial control and decision-making. Prerequisite: 207. *Mr. Pruis.*

313 BUSINESS ORGANIZATION AND MANAGEMENT. F. A study of the principles and problems of organization and management for optimal administration of the general management function in the firm, with emphasis on effective utilization of the human resources of the firm. Prerequisite: 151. *Staff.*

316 FINANCIAL PRINCIPLES. F. A study of the principles and problems involved in the optimal administration of the finance function in the firm, including financial aspects of the form of organization, and the allocation of capital to and within the firm. Prerequisites: 151 and 207. *Staff.*



318 **MARKETING.** S. A study of the principles and problems involved in the optimal administration of the marketing function in the firm, including production and promotional policy, price determination, and distribution channels. Prerequisite: 151. *Staff.*

321 **THE NATIONAL INCOME.** F. An intermediate course in macro-economic theory which studies the theory of aggregate demand, the degree of utilization of productive capacity, economic growth, and the general levels of prices. Prerequisite: 151. *Mr. R. Bosscher.*

322 **THE PRICE SYSTEM.** S. An intermediate course in micro-economic theory, emphasizing the role of the price system in organizing economic activity and an evaluation of its effectiveness. Prerequisite: 151. *Mr. R. Bosscher.*

331 **CREDIT AND MONETARY THEORY.** F. A study of the principles of money, banking, and credit with emphasis on monetary theory and policy and their role in domestic and international economics. Prerequisite: 151. *Mr. R. Bosscher.*

334 **INDUSTRIAL MARKETS AND PUBLIC CONTROL.** S. A study of the structure, control, and market behavior of American industry, and the public policy of preserving competition to control economic power. Prerequisite: 151. *Mr. Brouwer.*

335 **LABOR ECONOMICS.** F. A study of the labor market and its relation to the economy as a whole, with emphasis on wage theory, the economic impact of trade unions, unemployment, social security, human capital formation, manpower policies, and public policy. Prerequisite: 151. *Mr. G. Monsma.*

338 **INTERNATIONAL ECONOMICS.** S. A study of international economic relations, stressing the fundamentals of trade theory, the balance of payments, problems of international disequilibrium, trade barriers, and efforts to promote international economic stability and growth. Prerequisite: 151. *Mr. R. Bosscher.*

339 **THEORY OF PUBLIC FINANCE.** S. A study of the economics of government expenditures, taxation, and debt, with emphasis on allocation of resources, income distribution, and level of employment and production in the economy. Prerequisite: 151. *Mr. G. Monsma.*

342 **HISTORY OF ECONOMIC THOUGHT.** S. An examination of the development of economic ideas, mainly in the last two hundred years, in the context of the philosophical and historical conditions in which they emerged. Prerequisite: 151 or the permission of the instructor. Not offered 1969-70. *Mr. Brouwer.*

390 **READINGS AND RESEARCH.** F, I, S. Prerequisite: permission of the chairman.

400 **ECONOMICS SEMINAR.** F. A concentrated study of one or more significant problems in economics, designed primarily for majors planning to pursue graduate studies. Emphasis on oral and written reports and on extensive reading in current economic journals. Prerequisites: senior rank and consent of the instructor. *Staff.*

1969-70 INTERIMS

10 **COMPARISON OF SOVIET AND UNITED STATES ECONOMIC SYSTEMS.** The historical circumstances and non-economic values that have contributed to the emergence of different forms of economic structure in Russia and the United States. Some of the economic consequences of different economic structures are considered, with emphasis on resource allocation patterns and problems. *Mr. R. Bosscher.*

20 **THE ECONOMICS AND OPERATION OF FINANCIAL MARKETS.** A survey of the various financial markets, including the stock exchanges; an examination into the role of investments in the American economy; and an analysis of theories and techniques of investing. Textbook, examinations, and papers. *Mr. Lubbers.*

30 **ANALYSIS AND DECISION-MAKING IN THE FIRM.** A study of analysis for decision-making, and of the decision-

making process, including problems of uncertainty and non-quantitative factors. Readings, discussions, problems. *Mr. Pruis.*

40 PUBLIC REGULATION OF THE TELEVISION INDUSTRY. A study of the social control of the telecommunication industry, stressing the technical basis and the economic and social implications of public regulation by the Federal Communi-

cation Commission. Alternatives to conventional commercial TV will be considered from the standpoint of improved program quality. *Mr. Brouwer.*

41 POVERTY. An examination of the extent and causes of poverty in the United States and of the policies and programs designed to reduce poverty. *Mr. G. Monsma.*

Education

Professors Beversluis, De Beer, P. De Boer, D. Oppewal, Snapper (chairman)
Director of Teacher Certification and Field Services, Bos
Assistant Professors Besselsen, Hendricks, Hoeks, Vander Ark, D. Westra, J. Wiersma
Visiting Instructor Blok
Administrative Coordinator, M. Strikwerda

THE VARIOUS TEACHER TRAINING PROGRAMS are described in detail on pages 46-48. (Students graduating before 1970 should see page 116.) Prospective secondary teachers should consult with an advisor in the department in which they expect to major. The coordinator of secondary education is the chairman, Mr. Marion Snapper. Prospective elementary teachers should consult with Gertrude Vander Ark, coordinator of elementary education.

All students, beginning with the class of 1971, must take 203; 301; 303; and, if in secondary education, 346 and 356; or, if in elementary education, 305, 345, and 355. Students expecting to graduate under the program in effect previously must complete 301 or its equivalent; 203; 204; 314 or 315; and 343 or 344. Substitutions for these courses may be made by the chairman of the department.

203 PHILOSOPHY OF EDUCATION. F and S, core. An analysis of the relationship between educational theory and practice in their social and philosophical setting. Course materials are drawn from either ancient and medieval European or contemporary American education. Philosophy 209 may substitute for this course. *Mr. Beversluis, Mr. De Boer.*

204 HISTORY OF AMERICAN EDUCATION. F and S. A study of the American school systems in their historical setting from colonial times to the present. Special attention is given to the ways in which social and intellectual movements affect educational theory and practice.

Not required for the new certification programs. *Mr. De Boer.*

220 TEACHING ARITHMETIC IN ELEMENTARY SCHOOLS. Both content and methods in arithmetic as it is taught in the grades will be considered. Prerequisite: 301 or the equivalent. Not required for certification programs. *Staff.*

301 PSYCHOLOGY OF EDUCATION. F and S, core. Orientation to the field of psychology. A study of the learner, the learning process, and the kinds of learning. Should be taken during the junior or senior year. *Mr. Besselsen, Mr. De Beer, Mr. J. Wiersma.*

303 INTRODUCTION TO TEACHING. F and S. An analysis of the teaching-learning process in the classroom. Includes observation and participation in school activities. Prerequisite: concurrent registration in 301. *Staff*.

305 ELEMENTARY TEACHING METHODS. S. A study of the methods of teaching the various subjects taught in the elementary school. Prerequisite: 303. *Staff*.

314 PRINCIPLES OF TEACHING IN SECONDARY SCHOOLS. F and S. A study of the principles, methods, and techniques appropriate to the direction of the learning process at the secondary level. Includes a study of the problems peculiar to the discipline which will be taught by the student. Not offered after 1969-1970. Prerequisites: 301 or the equivalent, 203, 204, and concurrent registration in 344. *Mr. Snapper*.

315 PRINCIPLES OF TEACHING IN ELEMENTARY SCHOOLS. F and S. A study of the principles, methods, and techniques appropriate to the direction of the learning process. Not offered after 1969-1970. Prerequisites: 301 or the equivalent, 203, 204, and concurrent registration in 343. *Miss Westra*.

322 TEACHING READING IN ELEMENTARY SCHOOLS. F and S. A study of the physiological, psychological, and behavioral prerequisites for successful reading, a sequential analysis of reading skills, and a consideration of the broader area of language arts. Section A is for lower elementary grades and Section B for upper elementary. Not offered after 1969-70. Prerequisites: 203, 204, 301 or the equivalent, and concurrent registration in 343. *Staff*.

343 DIRECTED TEACHING FOR ELEMENTARY TEACHERS. F and S, two courses. Not offered after 1969-70. *Staff*.

344 DIRECTED TEACHING FOR SECONDARY TEACHERS. F and S, two courses. Not offered after 1969-70. *Staff*.

345 TEACHING INTERNSHIP FOR ELEMENTARY TEACHERS. F and S, three courses. Includes classes and seminars in teaching the various subjects offered

in the elementary school. Prerequisites: approval of the department and a cumulative grade point average of C (2.0). To be offered 1970-71. *Staff*.

346 TEACHING INTERNSHIP FOR SECONDARY TEACHERS. F and S, three courses. Includes classes and seminars in teaching the various disciplines. Prerequisites: approval of the department, approval of the major department, cumulative grade point average of C (2.0) To be offered 1970-71. *Staff*.

355 SEMINAR IN ELEMENTARY TEACHING METHODS. F and S. Sections are taught in each area of elementary education. Each student will bring to the seminar his experiences and problems of relating education theory to classroom practice. Prerequisite: concurrent registration in 345. *Staff*.

356 SEMINAR IN SECONDARY TEACHING METHODS. F and S. Sections are taught in the academic disciplines and will focus on effective methods of teaching. Prerequisite: concurrent registration in 346. *Staff*.

1969-70 INTERIMS

20 ERA OF REFORM: 1830-1860. A study of American reforms and reformers in educational, religious, political, economic, and social institutions; an assessment of Christian approaches to reform and social action. *Mr. P. De Boer*.

21 LABORATORY IN SPECIAL EDUCATION. A first-hand study of special education agencies and educational programs. The student will serve as an assistant and observer in special education programs and become acquainted with community agencies facilitating these programs. Selected readings and discussions will be compulsory. *Mr. J. Wiersma*.

30 INTRODUCTION TO CURRENT ISSUES IN EDUCATION. An intensive study of a limited number of crucial problems in education today which are not normally encountered in the normal sequence of professional education courses. *Mr. De Beer*.

31 EDUCATION IN THE INNER CITY. A first-hand study of the inner city, its in-

stitutions and social agencies. The student will serve as a student assistant in inner city schools. Includes study in the sociology of the inner city. *Mr. Hendricks.*

32 COLLOQUIUM ON A CHRISTIAN APPROACH TO CURRICULUM. The course will examine the relation of the Christian faith to selected curriculum areas in secondary and college education. To get beyond merely theoretical forays into educational philosophy, two questions will be asked about a given subject area: (1) What is the *aim* of that subject for Christian human growth, and (2) What are the recommended *procedures* for realizing that aim? The first asks about knowledge to be learned and attitudes to be fostered; the second asks about unit

organization of subject matter as well as strategies and methods in teaching. The course will include readings, reports, and discussion, as well as lectures, including some by guest lecturers from various segments of the Reformed community of scholars. *Mr. Beversluis, Mr. D. Oppewal.*

40 THEORIES OF ADOLESCENCE. A study, evaluation, and application of the principal theories advanced to explain the phenomenon of adolescence. *Mr. Snapper.*

41 FINE ARTS IN RELIGIOUS EDUCATION. Study and application of creative uses of the fine arts as means toward enhancing the religious learning experiences of children, youth, and adults in school and church. *Mr. Hoeks.*

Engineering

Professor J. Bosscher (chairman)
Assistant Professor Van Poolen

CALVIN COLLEGE does not offer a degree program in engineering, but rather presents a basic preengineering program which, in conjunction with subsequent study in an accredited school of engineering, leads to a joint degree. For details see pages 49 and 50.

101 ENGINEERING COMMUNICATION AND CONCEPT DESIGN. F, one and a half courses. A study of (1) basic topics in engineering drawing to provide facility in the transmission of ideas through accepted graphical means. Areas covered include orthographic projection, freehand sketching, pictorial representation, auxiliary views, sections and conventions, basic dimensioning, and fasteners, culminating in the production of the working drawing; (2) selected techniques in graphical mathematics and data presentation including graphical algebra and calculus, the determination of empirical equations from experimental data, functional scales, and basic nomography; (3) basic graphical techniques for the solution of the spatial relationships involved in the solution of point, line, plane, and surface problems in three dimensions; (4) and involvement in the engineering design process at the con-

cept level through the medium of lectures and assigned design projects. *Staff.*

202 STATICS. S. Study of fundamental principles of mechanics and their application to the simpler problems of engineering. Vector algebra, forces, components, moments, couples, centroids, fluid statics, stress equilibrium, friction, moments of inertia, virtual work. Must be preceded or accompanied by Mathematics 112 and Physics 226 or, possibly, 222. *Staff.*

205 PRINCIPLES OF MATERIALS SCIENCE. F. An introductory course in the science of engineering materials. Engineering properties are correlated with internal structures: atomic, crystal, micro, macro, and service environments: mechanical, electrical, thermal, chemical, magnetic, and radiation. Prerequisite: Chemistry 104. *Staff.*

303 **DYNAMICS.** F. Motion of a particle, dynamics of moving bodies, Newton's Laws, simple harmonic motion, elementary vibration problems, balancing, pendulums, impulse and momentum, work and energy. Must be preceded or accompanied by Mathematics 212 and Physics 226 or, possibly, 222. *Staff.*

305 **MECHANICS OF MATERIALS.** S. Application of principles of mechanics to solution of problems in stress and strain of engineering materials, including resistance to force, bending, torque, shear, eccentric load, deflection of beams, buckling of columns, compounding of simple stresses, introduction to theories of failure and energy methods. Prerequisite. 202. *Staff.*

309 **FLUID MECHANICS.** S. Basic properties of real and ideal fluids. Fluid statics. Lagrangian and Eulerian descriptions of flow. Continuity, energy, and linear momentum equations in differential and integral forms for compressible and incompressible flows. One dimensional flow analysis. Introduction to boundary layer theory and one dimensional compressible flows. Dimensional analysis and laboratory experiments utilized to determine significant flow parameters. Prerequisites: Mathematics 212 and Physics 226 or, possibly, 222. *Staff.*

310 **THERMODYNAMICS.** S. An introduction to concepts of work and heat,

properties of a pure substance, first law, second law, entropy, thermodynamic relations, mixtures, and an introduction to statistical thermodynamics. Prerequisites: Mathematics 212 and Physics 226 or, possibly, 222. *Staff.*

312 **PRINCIPLES OF ANALOG COMPUTATION.** S, half course. An introduction to the theory and techniques of analog computation, including computer solutions for representative systems of linear and non-linear differential equations. Computer solutions contrasted with mathematical solutions where applicable. Prerequisite: Mathematics 212 or permission of the instructor. *Staff.*

1969-70 INTERIMS

30 **MECHANICAL VIBRATIONS.** Applies to major. The analysis of mechanical vibrations in both transient and steady state regimes employing both analytical and computer methods of solution. Graphical and computer methods are investigated for both linear and non-linear problems with original inquiry suggested and encouraged. *Mr. J. Bosscher.*

31 **HEAT TRANSFER.** Applies to major. An introduction to the analysis of steady and unsteady state conduction, of free and forced convection, and of radiation modes of heat transfer. Elements of boiling heat transfer, heat exchangers, and mass transfer are presented. *Mr. L. Van Poolen.*

English

*Professors *Harper (chairman), K. Kuiper, P. Oppewall, Ten Harmsel, Tiemersma, Timmerman, Van Der Weele (chairman, pro tem), S. Wiersma*

Associate Professor Walhout

Assistant Professors Holkeboer, Hook, Kroese, Slingerland, Zylstra

Instructors Heynen, Walters

Visiting Instructor Baron

Assistant Instructor Swets

STUDENTS may declare a major in English only after completing 100 and 200 with a minimum average of C (2.0). The program includes 303, 310, 311, 329 or 330, four other literature courses, and one interim. The recommended program for students preparing for a secondary education certificate includes, in addition to the designated courses above, three courses chosen from 305 or 306, 307, 308 or 309, 313 or 315.

The core requirements in written rhetoric may be met by 100 or by examination; the fine arts requirements may be met by any other course in the department, except for 225 and 321.

- 100 WRITTEN RHETORIC. F and S, core. A study of written English rhetoric, with many formal exercises and papers. *Staff.*
- 200 INTRODUCTION TO LITERATURE. F and S, core. A study of the forms and genres of literature, with critical exercises and selected readings. *Staff.*
- 225 CHILDREN'S LITERATURE. F and S. A course designed to develop a knowledge of and an interest in good literature on the elementary level. The development of skill in storytelling on the part of the elementary teacher is emphasized. *Mrs. Zylstra.*
- 300 A SURVEY OF ENGLISH LITERATURE. F, core. A comprehensive study of English literature from Chaucer through Pope. The course is conducted intensively in the major authors rather than inclusively. *Miss TenHarmsel, Mr. Tiemersma.*
- 301 A SURVEY OF ENGLISH LITERATURE. S, core. A continuation of 300. The course proceeds from Johnson through Eliot. *Miss TenHarmsel, Mr. Tiemersma.*
- 302 MEDIEVAL ENGLISH LITERATURE. F, core. A study of Chaucer's *Canterbury Tales* and *Troilus and Criseyde* as reflecting Chaucer's literary genius and the major cultural phenomena of his time. Supplementary study in translation of *Beowulf*, *Gawain and the Green Knight*, and portions of *Piers Plowman*. *Mr. Timmerman.*
- 303 SHAKESPEARE. F and S, core. A study of selected works of William Shakespeare. *Staff.*
- 304 ENGLISH LITERATURE OF THE SIXTEENTH CENTURY. S, core. A study of the lyricists and sonneteers, the prose writers, and the dramatists (exclusive of Shakespeare). An intensive study of the poetry of Spenser and the drama of Marlowe. *Mr. S. Wiersma.*
- 305 ENGLISH LITERATURE OF THE SEVENTEENTH CENTURY. F, core. A study of important poetry and prose in England from Donne to Dryden, with particular emphasis upon the poetry of Donne, Herbert, Vaughan, Traherne, and Herrick, and upon the prose of Donne, Browne, and Taylor. *Mr. S. Wiersma.*
- 306 MILTON AND DRYDEN. S, core. An intensive study of the poetry and prose of John Milton, and a briefer study of John Dryden to demonstrate the form in which the Miltonic influence enters the mainstream of English literature. Marvell will be studied concurrently. *Staff.*
- 307 ENGLISH LITERATURE OF THE EIGHTEENTH CENTURY. S, core. A study of English poetry and prose in the eighteenth century, with emphasis on the neo-classicists, Pope, Addison, Swift, and Johnson, and a study of the beginnings of the romantic outlook in Gray, Thomson, and Cowper. Textbook, collateral readings, and reports. *Mr. Van Der Weele.*
- 308 ENGLISH LITERATURE OF THE NINETEENTH CENTURY. F, core. A study of the Romantic writers of England in both poetry and prose, with intensive critical work on Wordsworth, Carlyle, and Coleridge. *Mr. Kroese, Mr. Van Der Weele.*
- 309 ENGLISH LITERATURE OF THE NINETEENTH CENTURY. S, core. A continuation of 308. A study of the Victorian writers of England in both poetry and prose, with intensive critical work on Tennyson, Browning, and Arnold among the poets, and Arnold, Newman, Huxley, and Ruskin among the prose writers. *Mr. Tiemersma.*
- 310 AMERICAN LITERATURE. F, core. A study of important writings in the colonial and revolutionary periods, with emphasis upon the culture and writings of the New England group. *Staff.*
- 311 AMERICAN LITERATURE. S, core. A continuation of 310. Intensive study of Whitman and Twain. A survey of the

realistic movement, the new poetry, and important twentieth-century fiction and criticism. *Staff.*

312 **AMERICAN LITERARY CLASSICS.** F and S, core. A critical study of American masterpieces as the literary embodiment of the evolving minds, ways, and values of the American cultural process. Emphasis upon eight major authors. Not open to students who have had 310 or 311 or to English majors. *Mr. Walhout*

313 **MODERN ENGLISH AND AMERICAN POETRY.** S, core. A study of the lyric and dramatic poetry of England and America from 1890 to the present. *Mr. Van Der Weele.*

314 **THE ENGLISH NOVEL.** F and S, core. A survey of the English novel from its beginnings through Conrad, with emphasis upon the art and thought of the major novelists. Special attention is paid to the development of realistic, romantic, epic, and symbolic strains in modern fiction. The course includes the reading of at least twelve novels. *Mr. Hook, Miss Ten Harmset.*

315 **CONTEMPORARY ENGLISH AND AMERICAN FICTION.** F and S, core. A study of English and American fiction, with their continental relations, from 1890 to the present. *Mr. Hook, Mr. P. Oppewall.*

320 **WORLD LITERATURE.** S, core. A course of selected readings and lectures in the literature of non-English speaking peoples, ancient and modern, with special emphasis on the period from Dante to Thomas Mann, and with particular attention to significant forms and themes. Not offered in 1969-70.

321 **MODERN DRAMA (ENGLISH, IRISH, AMERICAN, AND CONTINENTAL).** S. Continental, English, Irish and American drama from the late nineteenth century to the present. *Staff.*

329 **LINGUISTICS.** S, core. A course that requires previous mastery of a traditional grammar as background to assigned readings in scholarly non-structural, structural, and transformational grammars. The course gives attention to assumptions informing the nomenclature, methodology, and scope of the as-



signed grammars. The course incidentally considers the relationship of these grammars to the study of composition and literature. *Mr. Hook.*

330 **HISTORY OF THE ENGLISH LANGUAGE.** F, core. An analysis of the changes that have occurred throughout the history of the English language, based on an intensive study of selected portions of the *Oxford English Dictionary* and passages from Chaucer, Shakespeare, and various English translations of the Bible. *Mr. S. Wiersma.*

331 **LITERARY CRITICISM.** S, core. A course in critical theory, historically and normatively pursued. Analysis of the principal contributions to Western literary criticism, as well as some practice of criticism on very recent literature. Not offered 1969-70.

332 **ADVANCED COMPOSITION AND RHETORIC.** F, core. A practical course in advanced expository writing. Readings in the formal essay, with much systematic writing in such types of composition as description, the formal and informal essay, the informative and feature article, the editorial, and the book review. Open to students who have a B (3.0) in 100 and permission of the instructor. *Mr. Van Der Weele.*

333 **THE WRITING OF PLAYS, POEMS, AND STORIES.** F, core. A course in the principles of composition of plays, poems, and stories. Works by contemporary

authors are analyzed in the light of these principles. Students will practice writing in all three forms. Admittance to the class may be granted by the instructor on the recommendation of the student's instructor in 100. Prerequisite: a grade of B (3.0) in 100. *Mr. Heynen.*

390 READINGS AND RESEARCH. F, I, S. Prerequisite: permission of the chairman.

400 SEMINAR.

1969-70 INTERIMS

10 THE SHORT STORY. A careful study of great short stories and novelettes, including analysis and interpretation, and development of the genre, and an examination of significant works of criticism on the short stories. *Mr. Swets.*

11 THE AUTHOR AND HIS TIMES — NINETEENTH CENTURY. A comparative study of American, English, French, and Russian nineteenth-century novels to relate them to the social conditions of the time. *Miss Slingerland.*

20 NOVELLA. A study of some novellas, or short novels, which combine something of the intricacy and extended development of character and theme proper to the full-length novel, with the unity and immediacy of impact of the short story. *Mrs. Zylstra.*

21 AMERICAN NEGRO LITERATURE. Intensive reading of major twentieth-century Negro novelists and poets: Richard Wright, James Baldwin, Ralph Ellison, Langston Hughes, Countee Cullen, and Leroi Jones. Emphasis on both literary and sociological contribution. *Mr. P. Oppewall.*

22 CONTEMPORARY DRAMA. Plays by the following authors will be read and discussed in relation to the major movements in modern drama: Ibsen, Strindberg, Chekhov, Shaw, Pirandello, Betti, Lorca, Brecht, Albee, Ionesco, Genet, Beckett, Behan, Delaney, Gelber, Pinter. *Mrs. Holkeboer.*

23 VARIATIONS ON A THEME: CHRISTIAN WRITERS AND THE CREED. In the past scholars and critics have written a good many essays about the role of the

Christian writer. The approach has often been prescriptive. This course will be descriptive. It will examine works by six writers, all of them Christians, to attempt to assess the influence of their Christianity on their art. *Mr. S. Wiersma.*

30 THE GOTHIC NOVEL. Intensive study of examples of the Gothic novel in eighteenth-century England; survey of its antecedents in and associations with German fiction, Gothic architecture, Italian picturesque painting, and the novel of sentiment and sensibility; and careful analysis of its influences on later English and American fiction. *Miss Ten Harm-sel.*

31 THE LITERATURE OF THE MODERN SOUTH. A survey of what is sometimes called "the Southern Renaissance." A brief study of historical backgrounds followed by readings in Faulkner, Ransom, Porter, Warren, Jarrell, Styron, and others. *Mr. Walhout.*

32 THE CHICAGO RENAISSANCE. A study of selected writings and interacting personalities in literary Chicago from 1910 to 1925. Fiction and poetry by Anderson, Dreiser, Hecht, Sandburg, and Masters will be analyzed. *Mr. Timmerman.*

33 THE TEACHING OF POETRY. This course is designed to permit the students to investigate and practice the various approaches to the teaching of poetry, including the historical, the analytical, the didactic, and the paraphrastic. Some attention is given to relating critical theories about the nature of poetry to the pedagogical methods which are implicit in those theories. *Mr. Kuiper.*

34 ADOLESCENT LITERATURE. An introduction to the guidance of outside and in-class readings in high school literature. The work will include a survey of books of graduated difficulty, thematically organized, through a program of independent reading. Emphasis will fall upon an intensive critical study of representative works. *Mr. Baron.*

35 ENGLISH AND AMERICAN SERMONIC LITERATURE OF THE SEVENTEENTH CEN-

TURY. An intensive study of sermons by some of the major preachers of seventeenth-century America and England, with particular emphasis on Lancelot Andrewes and John Donne. Some attention

will be given to the historical context of the works, though the chief consideration will be with sermons as a literary form. *Mr. Heynen.*

French

Professor A. Otten (chairman, Department of Romance Languages)

Assistant Professor L. Westra

Instructors Marsman, Van der Wekken

STUDENTS may declare for a program of concentration in French after having completed two units of college French with a minimum average grade of C (2.0). The program of concentration includes 201, 202, 217, 218, 311, 312, 313, 314, 321, and 322. The program for prospective secondary teachers requires 201, 202, 217, 218, 321, 322, and three from the following: 311, 312, 313, 314, 372. Programs for students beginning French in college should be worked out with the chairman. Cognates in a second foreign language, art (231, 232), English or American literature (300, 301, 303, 312), and history (304, 305) are recommended. All courses above 102 meet core requirements; 217, 218, 311, 312, 313, 371, and 372 meet core requirements in the fine arts.

LANGUAGE

101 ELEMENTARY FRENCH. F. An introductory course in the comprehension and use of spoken and written French. *Staff.*

102 ELEMENTARY FRENCH. S. Continuation of 101. Prerequisite to a program of concentration are 101 and 102. *Staff.*

201 INTERMEDIATE FRENCH. F. Further training in spoken and written French, study of the structure of the language, and reading of important literary texts. Conducted almost exclusively in French. *Staff.*

202 INTERMEDIATE FRENCH. S. Continuation of French 201. *Staff.*

205-206 (Interim)-207 INTERMEDIATE FRENCH. F, I, S. A three-semester course intended for students who have completed two years of high school French with less than a "C" average. Spoken and written French, study of the structure of the language, reading of texts in French. Upon successful completion of this course

the student will have met his college foreign language requirement. *Prerequisite:* two years of high school French. *Staff.*

321 ADVANCED FRENCH. F. A course for the advanced student who wishes to improve his facility in the language to an exceptional degree or who is preparing for graduate study or for the teaching of French. A wide variety of exercises, compositions, and drills is designed to develop in the student a high degree of competence in speaking, reading, and writing idiomatic French. Conducted in French.

322 ADVANCED FRENCH. S. Continuation of 321, with training in the writing of the *dissertation.*

LITERATURE

217 INTRODUCTION TO FRENCH LITERATURE. F. An introduction to the major writers and movements in the history of French literature from the Middle Ages through the eighteenth century. Extensive reading, lectures, *explications de texte*, reports, and papers. Conducted in French. *Mr. Van der Wekken.*



218 INTRODUCTION TO FRENCH LITERATURE. S. Continuation of 207. Study of the nineteenth and twentieth centuries. French 207 and 208 are designed to give the student an acquaintance with a large number of important works in French literature as well as the basic knowledge and historical framework necessary for further literary study. *Mr. Van der Wekken.*

311 FRENCH DRAMA. F odd years. A study of dramatic literature from the Middle Ages to the present day, with emphasis on classical and contemporary drama. Conducted in French. *Miss Westra.*

312 THE FRENCH NOVEL. S odd years. A study of fiction from the Middle Ages to the present day, with special emphasis on the nineteenth and twentieth centuries. Conducted in French. *Mr. Marsman.*

313 FRENCH POETRY. F even years. A study of the history and nature of French poetry by means of extensive reading and intensive examination of major poets, with special attention to the themes, forms, and techniques of poets of the modern period, beginning with Baudelaire. Conducted in French. *Mr. A. Otten.*

314 FRENCH PROSE. S even years. A study of major writers expressing French thought, spirit, and sensibility in non-fiction from Montaigne to Sartre. Special attention is paid to Calvin, Pascal, *les philosophes*, and the existentialists. Conducted in French. *Mr. A. Otten.*

371 LITERARY DOCTRINES AND PROBLEMS. F odd years. An advanced course devoted largely to literary theory, using as its point of departure a selection of such significant documents in the history of French literature as Du Bellay's *Défense et illustration de la langue française*, the various statements relating to the *Querelle des anciens et des modernes*, Hugo's *Préface de Cromwell*, the transcript of Flaubert's trial, and others. This course includes an examination of the situations and writings which elicited these documents. Normally this course should be taken after completion of the genre courses. Conducted in French. *Mr. A. Otten.*

390 INDEPENDENT STUDY. I. Introduction to the materials and methods of research. In consultation with the instructor, the student will define a problem in literary history, criticism, or theory, will do research in it, and present the results of his study in an organized *dissertation* written in French. Limited to the senior prospective graduate student. *Staff.*

400 SEMINAR.

CIVILIZATION

372 FRENCH CIVILIZATION. F odd years. A study of examples of non-literary, artistic expressions of the French mind in painting, architecture, and music, and of French religious, political, and social institutions. Designed to enhance the student's knowledge of French culture and to enrich his literary studies, this course is a complement to, rather than a substitute for, literary studies. Conducted in French.

1969-70 INTERIMS

20 FRENCH INTERIM ABROAD. Levels II and III, five weeks in France. Special series of lectures at the University of Montpellier; advanced language study, visits to important monuments and to the theater in Paris, excursions to several important cities and cultural sites. *Mr. A. Otten.*

40 ELEMENTARY FRENCH. This course is identical to the second semester of

first-year work in French. It assumes that the student will be able to take a special course, combining both semesters of Intermediate French (French 201 and 202) in the semester immediately following the interim. Letter grades will be given in this course. *Staff.*

41 THE FRENCH NOVEL IN TRANSLATION. An examination of the French novel in translation, through a study of some of the most important works, from the seventeenth century to the present. The nineteenth and twentieth centuries will be emphasized. Not open to French majors. *Mr. Marsman.*

German

Professors Boersma, Fridsma

*Associate Professor W. Bratt (acting chairman, Department of Germanic Languages),
Kreuzer*

Assistant Professor Hegewald

Instructor J. Lamse

Visiting Instructor Spoelman

Assistant Instructor Flikkema

STUDENTS should complete their first college year of German with a minimum average of C (2.0) before applying for admission to the major program. This concentration includes 201, 202, 215, 217, 218, three additional courses including 301 or 302, and one from 304, 306, 307, 308, and a senior level interim involving independent study.

All literature courses numbered 217 and above and interims 20 and 31 may be applied toward fulfillment of the fine arts core requirement.

101 ELEMENTARY GERMAN. F and S. A beginners' course stressing both written and spoken German and aiming at familiarity with basic grammatical patterns. *Staff.*

102 ELEMENTARY GERMAN. S. Continuation of 101. *Staff.*

201 INTERMEDIATE GERMAN. F, core. Selected prose readings, grammar review, composition, and collateral reading reports. Prerequisites: 101 and 102, or two units of high school German. *Staff.*

202 INTERMEDIATE GERMAN. S, core. Continuation of 201. Prerequisite: 201. *Staff.*

203 INTERMEDIATE GERMAN. F, core. A one-semester course intended specifically for students who have successfully completed three years (six units) of high school German. Selected prose readings, grammar review, composition, and collateral reading reports. *Staff.*

205-206 (Interim)-207 INTERMEDIATE GERMAN. F, I, S. A three-semester course intended for students who have completed two years of high school German with less than a "C" average. Intensive language review, composition, and selected prose readings. Upon successful completion of this course the student will have met his college foreign language requirement. Prerequisite: two years of high school German. *Staff.*

215 ADVANCED ORAL AND WRITTEN COMPOSITION. S. Exercises, compositions, and drills designed to develop in the student advanced competence in speaking and writing idiomatic German. Prerequisite: 202. *Mr. Kreuzer.*

217 READINGS IN MAJOR GERMAN AUTHORS. F, core. Basic introduction to German literature. Selected readings in major German authors from 1750 to 1850. Assigned readings and papers. Prerequisite: 202. *Mr. Lamse.*

218 READINGS IN MAJOR GERMAN AUTHORS. S, core. Continuation of 217. Readings in major German authors from 1850 to the present. Prerequisite: 202. *Mr. Lamse.*

301 CLASSICISM. F even years, core. The origins of the classical ideal during the seventeenth and early eighteenth centuries. Readings from Klopstock, Lessing, Goethe, and Schiller. Prerequisite: 202. *Mr. Boersma.*

302 CLASSICISM. S. Continuation of 301. Prerequisite: 202. *Mr. Boersma.*

303 ROMANTICISM. F even years, core. The literary theory and philosophical-religious basis of the German romantic movement as reflected in representative works of both earlier and later Romanticists. Prerequisite: 202. *Mr. Hegewald.*

304 REALISM. S even years, core. Readings in the literary prose of the latter half of the nineteenth century. A survey of the intellectual and cultural changes immediately preceding this era and an analysis of some literary works characteristic of the period. Prerequisite: 202. *Mr. Hegewald.*

305 EARLY NINETEENTH CENTURY DRAMA. F odd years, core. A comprehensive study of the lives and works of leading German dramatists of the early nineteenth century. Assigned readings. Papers on related subjects. Prerequisite: 202. *Mr. W. Bratt.*

306 LATER NINETEENTH CENTURY DRAMA. S odd years, core. A study of Hebbel and Hauptmann and their times. Assigned reading and reports. Prerequisite: 202. *Mr. W. Bratt.*

307 STUDIES IN MODERN GERMAN LITERATURE. S odd years, core. A comprehensive study of the major writers and movements from 1890 to the present. Among the figures considered are Mann, Rilke, Kafka, Hesse, and Brecht. Assigned readings and papers. Prerequisite: 202. *Mrs. Lamse.*

308 STUDIES IN MODERN GERMAN LITERATURE. S odd years, core. Continuation of 307. Prerequisite: 202. *Mrs. Lamse.*

390 INDEPENDENT STUDY. I. This course is required of all seniors with a major concentration in German. It will be tailored to meet the needs of the individual student, to enable him to broaden his familiarity with the more important German literary works, and to deepen his understanding of them in tutorial discussions. Prerequisite: Department approved program of concentration. *Mrs. Lamse.*

400 SEMINAR.

1969-70 INTERIMS

20 REPRESENTATIVE PROSE WORKS OF HERMANN HESSE. Reading and discussion of short stories, novels, and essays of Hermann Hesse (1877-1962). The course will include a study of his literary and philosophical antecedents, the development of his thought and art, and his "rediscovery" by contemporary youth. Prerequisite: two years of college German or permission of the instructor. *Mr. Boersma.*

31 AN INTRODUCTION TO MEDIEVAL GERMAN LITERATURE. The course is intended to acquaint students with the major epic and lyric poets of the classic period of medieval German literature. Students will read and discuss such masterpieces as the *Nibelungen Lied*, *Iwein*, *Tristan und Isold*, and *Parzival* in addition to several selections from *Minnesang*, the courtly love lyric. Prerequisite: German 202 or permission of instructor. *Mr. Lamse.*

40 ELEMENTARY GERMAN. This course is identical to the second semester of first-year German. It assumes that the



student will be able to take a special course, combining both semesters of Intermediate German, in the semester immediately following the interim. Letter grades will be given in this course. *Mr. Fridsma.*

41 NAZI GERMANY. A study of Nazi Germany, 1933-1945, concentrating on the origins and growth of Nazism, life in Hitler's Germany, and the last days of the Third Reich. Conducted in English. *Mr. Hegewald.*

Greek

SEE THE DEPARTMENT OF CLASSICAL LANGUAGES for a description of courses and programs of concentration in Greek.

History

*Professors *Ippel (chairman, Department of History and Political Science), Jellema, Miller, Rienstra, Strikwerda (chairman, pro tem), *E. Van Kley*
*Associate Professors Bolt, *Brinks, Marsden*
Assistant Professors De Bie, De Vries, Greydanus, D. Van Kley
Visiting Assistant Professor Wells
Instructor Roberts
Visiting Instructor Hekman

PROGRAMS for students majoring in history will be worked out for them by departmental advisers. Such programs will reflect the student's interests both within the field of history and in related departments, his anticipated vocational goal, and the demands of the historical discipline. A minimum grade of C (2.0) in 101 is required for admission to major programs. For most programs a proficiency in either French or German is advised. Students are asked to consult with departmental advisers early in their college careers concerning their choice of a foreign language and, if secondary teaching is their goal, concerning the various types of programs leading to certification.

The minimum requirements of the department are the completion of nine courses in the department, including History 101, one second or third level interim in history or a departmentally approved substitute, the departmental seminar (History 400), and a program emphasizing either American or European interests. The European concentration requires History 211 or at least two units from History 310 through 312 and at least three units from the basic European period sequence, History 301 through 305. The American concentration requires at least three units from History 310, 311, 312, and 355 and at least two units from History 301 through 305. Electives from within the department complete the programs.

The core requirement in history must be met by 101; any other regular course in the department will satisfy the additional requirements in the same category.

AREA SURVEYS

101 WESTERN CIVILIZATION. F and S, core. A study of the main cultural currents of Western Civilization from Classical Egypt through the twentieth century. *Staff.*

201 ANCIENT NEAR EAST. F. A cultural history of the ancient Near East from pre-history to the rise of Islam. Based on evidences from archaeology and cultural anthropology as well as on ancient texts in translation, Biblical accounts, and contemporary historical records. Special consideration is given to: geographical setting, artistic and linguistic traditions, and cultural contacts with European civilizations. *Mr. B. De Vries.*

202 MODERN NEAR EAST. S. A study of the transformation of the Near East from the rise of Islam through the establishment of independent national states following World War II. Particular attention is given to the institutionalization of Islam, the classical Arab Caliphates, the Crusades, the Ottoman Turkish and Safavid Persian states, the Near East Question, the modernist movements in Islam, and the problems of the contemporary states. *Mr. B. De Vries.*

203 TRADITIONAL EAST ASIA. F. An introduction to the history of East Asian civilizations from the earliest times to the nineteenth century. Primary emphasis is placed on the civilizations of China and Japan. Study of the growth and development of traditional East Asian society is supplemented by topical discussions of religion, philosophy, art, music, and literature. *Mr. E. Van Kley.*

204 MODERN EAST ASIA. A study of the transformation of East Asian society resulting from the intrusion of the West, from the sixteenth century to the present. Primary emphasis is placed on the civilizations of China and Japan and on the contacts between East Asia and the West. Topics on East Asian religion, philosophy, art, literature, and music are included. Not offered 1969-70.

205 LATIN AMERICA. F. An introduction to Latin American history including: the Iberian background; the conquest of the Aztec, Inca, and Mayan civilizations; the cultural, economic, social, and political

developments of the colonial era; the independence movements; social reform, church-state relations, Pan-Americanism, wars and foreign intrusions, and the political changes during the national period. *Mr. Hekman.*

NATIONAL HISTORIES

211 SURVEY OF AMERICAN HISTORY. F and S. Selected themes in American history from colonial times to the present. This course is not intended for those who plan to take period courses in American history. *Staff.*

212 ENGLAND. A survey of English history including: the Anglo-Saxon background; the medieval intellectual, religious, and constitutional developments; the Tudor and Stuart religious and political revolutions; the emergence of Great Britain as a world power; the growth of social, economic, and political history in the modern period. Not offered 1969-70.

215 CANADA. S. A tracing of the founding and character of New France and a more careful examination of nineteenth and twentieth century Canada. *Mr. Strikwerda.*

218 RUSSIA. F and S. A study of Russian and East European history from Byzantine and Slavic origins through the Russian Revolution of 1917 and the development of the contemporary Soviet state. *Mr. Jellema.*

221 THE NETHERLANDS. S. An introduction to the history of the Netherlands; the medieval times; the Burgundian period; the Reformation; the Dutch "Golden Age"; the French Revolution; the revival of Calvinism during the later nineteenth century; the changing role of the Netherlands in the twentieth century. *Mr. Jellema.*

STUDIES OF HISTORICAL PERIODS

301 CLASSICAL HISTORY. S. A study of the history of Greece and Rome from the Minoan Age through the reign of the Emperor Theodosius. The emphasis is on the political and economic changes which were the background for the shifts in intellectual styles. Particular problems are studied in depth: the emergence of the city-state; the Periclean age of

Athens; the age of Alexander; the crisis of the Roman Republic; and the Decline. The two units of Greek 311 and Latin 312 may be substituted for this one-unit course. *Mr. B. De Vries.*

302 **MEDIEVAL EUROPE.** F and S. A study of European society from 400 through 1350. The broad sweep of political, economic, and intellectual change is focused on the analysis of particular topics, such as the emergence of a Christian society, the rise of Feudalism, the tensions between Asceticism and Humanism, the Crusades, and the Regnum-Sacerdotium controversy. *Mr. Roberts.*

303 **RENAISSANCE AND REFORMATION EUROPE.** F and S. A history of Europe from 1350 to 1600 with primary emphasis on the rise of dynastic states, the Italian Renaissance, the Renaissance in Northern Europe, and the various phases of the Reformation. *Mr. Rienstra.*

304 **EARLY MODERN EUROPE.** F and S. A history of Europe from 1600 to 1815, from the Thirty Years War through the French Revolution, with considerable emphasis on the Age of Reason and Enlightenment. *Mr. D. Van Kley.*

305 **MODERN EUROPE.** F and S. Western Europe from 1815 to 1914. A study of the political and economic phenomena of this century; and examinations of nationalism, liberalism, Darwinism, imperialism, and militarism. *Mr. Strikwerda.*

310 **COLONIAL UNITED STATES.** F and S. A study of the colonial origins of the United States from the first settlements to about 1790, with primary emphasis on the intellectual, social, and religious developments and on the European origins of American thought. Attention is given to political, imperial, military, and economic changes. This course is designed to serve as one of the American sequence and as an introduction to History 355, Intellectual History of the United States. *Mr. Armour, Mr. Marsden.*

311 **NINETEENTH CENTURY UNITED STATES.** F and S. An examination of United States history from the drafting of the constitution to 1890. Particular attention is given to the Federalist Era,

the origin of political parties, Jeffersonianism and Jacksonianism, social reform, sectionalism, slavery, the Civil War and reconstruction, economic expansion, and the Gilded Age. *Mr. Wells.*

312 **TWENTIETH CENTURY UNITED STATES.** F and S. A study of politics, diplomacy, labor, industry, and scientific achievement since the 1890's with emphasis on such developments as the Progressive Movement, World War I, the retreat from international responsibility; the roaring twenties, the Great Depression, the New Deal, World War II, and domestic and foreign developments since World War II. *Mr. Bolt.*

320 **CONTEMPORARY WORLD.** F and S. Western Europe from World War I to the present; the breakdown of colonialism and the resulting emergence of non-European powers; World War II and its role of changing the balance of power; the Cold War and the era of little wars. Topical studies include: the changing character of world economics; the conflict of ideologies; cultural relativism; the new age of conservatism. *Mr. Miller.*

TOPICAL STUDIES

334 **UNITED STATES CONSTITUTIONAL HISTORY.** A study of the development of American legal and political traditions using the constitution as the focal point. Emphasis is on such themes as the inter-relationship among the three branches of government and the relationship between legal education and the decisions of the courts. Particular attention is given to the Supreme Court decisions as they have reflected or molded social, intellectual, economic, and political change. Not offered 1969-70.

351 **ENGLISH CONSTITUTIONAL HISTORY.** A study of the origins and subsequent developments of English law, legal institutions and constitutional usages from 1066 to the present. Major topics considered are: the nature of English constitutional monarchy, the growth of Parliament, the development of English Common Law, the Tudor and Stuart revolutions, the Whig oligarchy, and the significant reforms of modern Britain. Not offered 1969-70.



355 **INTELLECTUAL HISTORY OF THE UNITED STATES.** F and S. An analysis of the changing intellectual patterns in American society from about 1790 to the present as exemplified in religious, philosophical, political, social, and scientific thought. Emphasis is placed on the interaction of thought and society and some attention is given to European influence on American thought. A general knowledge of American history is assumed. *Mr. Marsden.*

360 **AFRO-AMERICAN HISTORY.** S. An intensive inquiry into the role of the Afro-American in the history of the United States, including an evaluation of past and present assumptions of the place of the Afro-American in American life, and an acquaintance with the historiography on this subject. *Mr. Greydanus.*

390 **INDEPENDENT STUDY.** F, I, S. Open to honor students with the permission of the chairman and the instructor under whom the work will be done. *Staff.*

400 **SEMINAR IN HISTORY.** F and S. A course taught by the staff in historiography, the philosophy of history, historical bibliography, and the writing of history. The seminar is subdivided to reflect fields of student interest. *Mr. Bolt, Mr. Miller.*

1969-70 INTERIMS

10 **EMERGENCE FROM INNOCENCE, 1893-1928.** The panorama of popular preoccupations; changes in dress and mores; diversions; inventions; feats; disasters. The coming of electricity, mobility, the "Tin Lizzie," mechanization, leisure, War and demobilization, prohibition, the radio, the airplane, installment buying, flippancy, slang, ostentation, inflation, and naivete. Ecclesiastical reactions. Two course papers, class reports, several paperbacks, examinations. *Mr. E. Strikwerda.*

20 **SOCIAL FORCES IN LATIN AMERICA TODAY.** A study of religion, militarism, economics, personalism, and related topics to determine the effect which these have had on the development of selected Latin American countries in the period since the Second World War. Lectures, movies, and discussions. Two papers will be required, one of which will be presented for class discussion. *Mr. Hekman.*

21 **THE IMMIGRANT IN AMERICAN HISTORY.** This course will attempt to answer the question of Crèvecoeur nearly 200 years ago: "What then is the American, this new man?" Topics to be discussed will be the pattern of the so-called "old" and "new" immigration, the impact of immigration on American life and institutions, and the reception of immigrants by the "native" population. Discussion, papers, test. *Mr. Wells.*

23 **THE FRENCH REVOLUTION AND ITS HISTORIANS.** A study of representative historians of the French Revolution from Burke to Soboul. *Mr. D. Van Kley.*

30 **HERESY AND HERETICS.** A study of selected heresies and heretics to deter-

mine precisely what problem within Christian theology they were attempting to resolve, and to reveal the influence of heresy upon the final dogmatic formulations in the Church. Discussion and papers. *Mr. Roberts.*

32 EVERYMAN'S REVOLUTION—THE COMMUNE OF PARIS. After Bismarck's defeat of France in 1870 triggered the collapse of French institutions and ego, the Commune of Paris became the symbol of both hope and despair. Revolutionary ideas appeared in the arts, religion, economics, as well as politics. This course concentrates on works and writings of the Commune and of the following decade which show why France was soon the leading intellectual and cultural center of the world. General reading and research program. *Mr. Miller.*

42 THE ARAB-ISRAELI CRISIS. A study of the history of Palestine in this century with emphasis on those events which have contributed to the present confrontation with the Arab world. *Mr. DeVries.*

Departmental approved substitute Interim courses in other departments which satisfy the Interim requirement for history majors are:

CLASSICAL LANGUAGES 30 THE ARROGANCE AND THE ORDEAL OF POWER: A Study of Roman Imperialism. *Mr. Harris.*

EDUCATION 20: ERA OF REFORM: 1830-1860. *Mr. P. De Boer.*

GERMAN 41: NAZI GERMANY. *Mr. Hege-
wald.*

Latin

SEE THE DEPARTMENT OF CLASSICAL LANGUAGES for a description of courses and programs of concentration in Latin.

Library Science

Assistant Professor M. Monsma (program adviser)

THE STUDENT who meets all the requirements for teacher certification and completes a minor in library science may be certified as a teacher-librarian at either the elementary or secondary school level. Certification of this program is pending.

Training as a professional librarian requires a master's degree in library science (M.A.L.S.). This is required for college and public librarians and is desirable for those in elementary and secondary schools. The undergraduate preparation for such a program may include a major in any field, should be as broad as possible, and should include a reading knowledge of at least one modern foreign language.

201 PRINTING: PAST, PRESENT, AND FUTURE. F. This survey of the history of publication from the clay tablet to modern printing includes cuneiform, papyrus, and the manuscript; the invention of printing, the role of the scholar-printers, and the book in the Renaissance and Reformation; the modern commer-

cial, university, and private press; the microform, the teleprinter, and information storage and retrieval. Not offered 1969-70. *Mr. De Koster.*

211 THE LIBRARY: PAST, PRESENT, AND FUTURE. F. The role of the library in Western culture is studied with a

specific reference to the great accumulations of books made in the past and present; the ends to which such libraries have been, are being, and can be put; and the strengths of great national and academic collections, their catalogs, bibliographies, and use. *Mr. De Koster.*

251 SCHOOL LIBRARY ADMINISTRATION AND MATERIALS. F and S, one and one-half course credit. A study of the organization and administration of the elementary and secondary school library; the techniques of acquisitions, cataloging, circulation, and reference; relations with publishers, dealers, and jobbers; applications for government grants; fundamentals of relations with faculty, students, and other patrons in the use of books, periodicals and other materials; the library as instructional materials center. *Mr. M. Monsma.*

252 BOOK SELECTION FOR THE SECONDARY SCHOOL LIBRARY. F. An introduc-

tion to the standards of library selection which are applicable to the various secondary school disciplines and to the guides, review media, recommended bibliographies, and other relevant tools. Not offered 1969-70. *Mr. M. Monsma.*

301 FOUNDATIONS OF LIBRARY CLASSIFICATION OF KNOWLEDGE. S. This is an introduction to the principles of classification of knowledge, their historical development, their application in the emergence of the encyclopedia, and to the ways these are implemented in the contemporary systems of library classification. The systems studied include: Bliss, Colon, Dewey, Library of Congress, Union Seminary, and Universal Decimal. *Mr. De Koster, Mr. M. Monsma.*

The following course offered by another department may be included as a part of this program:

ENGLISH 225, CHILDREN'S LITERATURE.

Mathematics

Professors Sinke (chairman), Van Zwalenberg, Zwier
Associate Professors Boonstra, J. Kuipers, Tuls
Assistant Professors Leestma, L. Nyhoff

FRESHMEN DESIRING TO MAJOR in the department who have not had at least three and a half years of high school mathematics should enroll in 100. A minimum grade of C (2.0) in 211 is required of all students applying for a program of concentration in the department. The program includes 111, 112, 211, 212, 351, three additional courses numbered 300 or above, and one junior-senior level interim course. Students preparing to teach mathematics in secondary schools should complete the courses designated in the general program of concentration above, plus 321, 331, 343, and one junior-senior level interim course. Cognate courses in physics and/or philosophy are strongly recommended as is a reading knowledge of German and French.

A teaching group major in physics and mathematics consists of Mathematics 111, 112, 211, 212, 321, and 351; Physics 126, 225, 226, 381, 382, and one course from: Physics 335, an interim in modern physics, or an interim in electricity and magnetism. A group minor in the same fields consists of Mathematics 111, 112, and 211; Physics 126, 225, 226, 381, and 382.

The core requirements in mathematics may be met by 109, 111, or 206.

- 100 **PRE-CALCULUS MATHEMATICS.** F and S. Review of elementary algebra; topics in college algebra, including inequalities, linear and quadratic functions, mathematical induction; introduction to the trigonometric functions and their properties. Prerequisite: One year of geometry and one year of algebra in high school. *Staff.*
- 109 **ELEMENTS OF MODERN MATHEMATICS.** F and S, core. Set algebra, cardinal numbers, the arithmetic of counting numbers, logic, axiomatic systems, construction of rational and real number systems, groups and fields, relations and functions, polynomials. Prerequisites: one year of geometry and one year of algebra in high school. *Staff.*
- 111 **CALCULUS AND ANALYTIC GEOMETRY.** F and S. Rates of change, limits, derivatives of algebraic functions, applications of the derivative, integration, applications of the integral. *Staff.*
- 112 **CALCULUS AND ANALYTIC GEOMETRY.** F and S. Transcendental and hyperbolic functions, formal integration, analytic geometry, polar coordinates, vectors, parametric equations. Prerequisite: 111. *Staff.*
- 205 **MATHEMATICS FOR SOCIAL SCIENCE.** F. Real number system, field properties, functions and graphs, elementary linear programming, minimum and maximum problems, matrix algebra, systems of equations, sequences, applications to business mathematics, elementary probability theory. Prerequisite: Two years of high school mathematics. *Mr. Sinke.*
- 206 **MATHEMATICS FOR SOCIAL SCIENCE.** S, core. Description of sample data, binomial and normal distributions, distributions of sample statistics, statistical inference, regression analysis. Prerequisite: 205 or 111. *Mr. Sinke.*
- 211 **CALCULUS AND LINEAR ALGEBRA.** F and S. Infinite series; vector spaces, linear transformations, matrices, determinants, other topics from linear algebra; solid analytic geometry, vectors; functions of several variables. Prerequisite: 112. *Staff.*
- 212 **CALCULUS AND DIFFERENTIAL EQUATIONS.** F and S. Multivariate analysis, multiple integration, differential equations of first order, numerical methods, linear equations, differential equations of second and higher order; operators, power series solutions; Laplace transform. Prerequisite: 211. *Staff.*
- 311 **ADVANCED ANALYSIS.** F. Complex numbers, complex functions, integration and the Cauchy integral formula, power series, residues and poles, conformal mapping. Prerequisite: 212. *Mr. Van Zwalenberg.*
- 312 **ADVANCED ANALYSIS.** S. Laplace transform, Fourier series, Fourier integrals, orthogonal functions, Sturm-Liouville theory, Bessel functions, Legendre polynomials. Prerequisite: 311. *Mr. J. Kuipers.*
- 321 **FOUNDATIONS OF GEOMETRY.** F. Consideration of Euclidean geometry as an axiomatic system, introduction to non-Euclidean geometry, the Poincaré model. Prerequisite: 112. *Mr. Zwier.*
- 323 **LINEAR AND PROJECTIVE GEOMETRY.** F. Transformations in the Euclidean plane, review of algebra of vector spaces, affine spaces, projective space, projectivities and their groups, cross ratio, theorems of Desargues and Pappus. Prerequisite: 352. Not offered 1969-70.
- 331 **HISTORY OF MATHEMATICS.** S. A study of the historical development of certain basic mathematical concepts from early times to the present, with consideration of the problems that mathematicians have faced in each age. Prerequisite: 211. *Mr. Boonstra.*
- 341 **NUMERICAL ANALYSIS.** S. Analysis of errors in numerical methods, real roots of equations, approximations using polynomials, calculus of finite differences, numerical methods for differentiation and integration, applications to differential equations, applications to matrix algebra, inversion of matrices, characteristic values. Prerequisite: 212. *Mr. Sinke.*
- 343 **PROBABILITY AND STATISTICS.** F. Probability, probability density functions;

binomial, Poisson, and normal distributions; central limit theorem, limiting distributions, sample statistics, hypothesis tests, estimators. Prerequisite: 212. *Mr. Sinke.*

351 ABSTRACT ALGEBRA. F. Set theory, relations and functions, equivalence relations; the integers, mathematical induction, and elementary number theory; groups, rings, fields, and polynomials. Prerequisite: 211. *Mr. Nyhoff.*

352 ABSTRACT ALGEBRA. S. Principal ideal rings, unique factorizations domains, advanced topics in groups and rings, linear algebra, finite dimensional vector spaces, linear transformations, matrices, canonical forms, diagonalization. Prerequisite: 351. *Mr. Nyhoff.*

361 GENERAL TOPOLOGY. F. Elementary set theory, topological spaces, separation properties and connectivity, continuous mappings, homeomorphisms, product and quotient spaces, invariants under continuous mappings, compactness, metric spaces and completeness. Prerequisite: 211. *Mr. Leestma.*

362. REAL ANALYSIS. S. The real number system, Lebesgue measure and integration, differentiation and integration of real functions, classical Banach spaces, abstract measure theory. Prerequisite: 311. *Mr. Van Zwalenberg.*

390 READINGS IN MATHEMATICS. F, I, S. Independent study of topics of interest to particular students, under supervision of a member of the department staff. Prerequisite: permission of the department. *Staff.*

400 SEMINAR.

1969-70 INTERIMS

20 INFINITE SERIES. A study of infinite series, including general tests for divergence and convergence, representation of functions by series, summation processes for divergent series. Applications where appropriate. *Mr. Tuls.*

21 LATTICE THEORY. A study of partially ordered systems including lattices, Boolean rings, and Boolean algebras. Applications to geometry, set theory, logic, and real analysis will be considered. *Mr. Leestma.*



30 COUNTEREXAMPLES IN ANALYSIS. A study of counterexamples in real variable analysis, starting at the calculus level, with a review of definitions and important relevant theorems. *Mr. Van Zwalenberg.*

31 PHILOSOPHY OF MATHEMATICS. A study of readings selected to introduce the student to some of the main schools of thought in this field: intuitionism, formalism, logicism, and conventionalism. *Mr. Zwier.*

32 TOPICS IN LINEAR ALGEBRA. Topics in linear transformations and matrix theory will be considered, with particular attention given to applications in physics and engineering. *Mr. Kuipers.*

40 FINITE MATHEMATICS. A consideration of topics in finite mathematics, including some set theory, partitions and counting formulas, finite probability, and matrix algebra. A variety of applications to economic and social problems. *Mr. Sinke.*

41 LABORATORY METHODS FOR TEACHING ELEMENTARY SCHOOL MATHEMATICS. A course designed for prospective

elementary school teachers. It will introduce the students to a variety of materials which can be used to teach mathematics. The laboratory approach will be studied and used. *Mr. Boonstra.*

42 WHAT CALCULUS IS ALL ABOUT.

An introduction and an overview of the calculus; an intuitive description of the basic inner workings of the calculus and some of its widely-varied applications, such as in rate-or-change problems, maximization and minimization, calculation of areas, etc. *Mr. Nyhoff.*

Music

Professor Hamersma (chairman)

*Associate Professors De Jonge, *Geerdes, Slenk*

*Assistant Professors G. Huisman, Topp, *Worst*

Instructor Stapert

Professional staff, Knol, Rus

TO BE ADMITTED AS A MAJOR in music a student must have completed 103, 104, 203, and 204 with a minimum average of C (2.0). The general music requirements for all majors include 103, 104, 121, 122, 123-124, 131, 132, 203, 204, 223, 224, 303, 304, 199-200 each semester, and participation each semester in some faculty-directed music ensemble. Students with a concentration in instrumental music education are not required to take 131 and 132. In addition to these general departmental requirements a student concentrating in music must complete any one of the following programs of specialization. *Music history* requires 205, 206, 305, and 306. *Theory and composition* includes 205, 206, and any two courses from 315, 316, 407, and 408. The *applied music concentration* may be met by a total of four courses of individual instruction in a single medium. *Instrumental music education* requires five and a half courses — 313, 315, 316, 329, 330, and four semesters of instruction in a string or wind instrument. The five-course specialization in *vocal music education* is met by 313; four semesters' study of a keyboard instrument or of voice, plus at least two semesters' study of the other; and three electives from the advanced courses. The programs in music education must also include 331 (substituting for Education 314) and 332 or 333 (as part of Education 344).

A nine-course major for students in the elementary education program consists of 103, 104, 203, 123, 124, 121, 122, 302, 313, 222 or 331, 117, 118, 141, 142, two semesters of participation in a faculty-directed ensemble, and one elective (332 or 333 are recommended). Students who elect 331 or 332 will receive an addendum to their elementary teaching certificate indicating preparation to teach music in both the elementary and the secondary school.

A minor in secondary music education requires 103, 104, 203, 302, 313, 332 or 333, two semesters of individual lessons in piano, organ, or voice, or two semesters of participation in some faculty-directed ensemble.

The fine arts core requirement may be met by 104, 211, 212, 219, 301, 302, and 326. 103 also meets the requirements if taken with any of the courses listed above.

BASIC COURSES

103 THE VOCABULARY, LITERATURE, AND MATERIALS OF MUSIC. F. A coordinated study of the historical, theoretical, and practical aspects of music by means of lectures, score study, written exercises, listening drill in aural perception, singing, reading, and term paper. The course begins with an introduction to music, primitive music, exotic music, and the music of the ancient Greeks. Score studies, listening repertory, and historical background in the music of the Middle Ages. Students intending to major in music must take 121 concurrently. *Miss Huisman, Mr. Stapert.*

104 THE LITERATURE AND MATERIALS OF MUSIC. S. A continuation of 103. An introduction to modal counterpoint. A study of the music of the fifteenth and sixteenth centuries. Students intending to major in music must take 122 concurrently. Prerequisite: 103. *Miss Huisman, Mr. Stapert.*

121-122 KEYBOARD HARMONY, ELEMENTARY. F and S, quarter course. Class instruction in keyboard harmony. Private instruction in piano will be required concurrently for students failing to meet departmental piano requirements. To be taken simultaneously with Music 103-104. *Mrs. Knol.*

123-124 AURAL PERCEPTION, ELEMENTARY. F and S. Quarter course. A course in the development of the ability to hear and grasp the rhythmic, melodic, and harmonic elements of music. To be taken simultaneously with Music 103-104 or Music 203-204. *Mr. Stapert.*

131-132 KEYBOARD HARMONY, ADVANCED. F and S, quarter course. Continuation of 121-122. To be taken simultaneously with Music 203-204. Prerequisite: 121-122. *Mrs. Knol.*

203 THE LITERATURE AND MATERIALS OF MUSIC. F. A continuation of 104. An introduction to tonal counterpoint. A study of the music of the Baroque era. Students intending to major in music, excepting concentrators in instrumental music education, must take 131 concurrently. Prerequisite: 104. *Mr. Stapert.*

204 THE LITERATURE AND MATERIALS OF MUSIC. S. A continuation of 203. A study of the materials of traditional harmony. The study of the music of the Classic period. Students intending to major in music, excepting concentrators in instrumental music education, must take 132 concurrently. Prerequisite: 203. *Mr. Stapert.*

223-224 AURAL PERCEPTION, ADVANCED. F and S. Quarter course. Continuation of 123-124. To be taken simultaneously with Music 203-204 or Music 303-304. Prerequisite: 123-124. *Mr. Stapert.*

303 THE LITERATURE AND MATERIALS OF MUSIC. F. A continuation of 204. Completion of the study of the materials of traditional harmony. A study of the music of the Romantic period. Prerequisite: 204. *Mr. Hamersma.*

304 THE LITERATURE AND MATERIALS OF MUSIC. S. A continuation of 303. A study of post-romantic and contemporary music. Comprehensive examination on the program of basic courses in the history and structure of music. Prerequisite: 303. *Mr. Hamersma.*

ADVANCED COURSES

205 VOCAL POLYPHONY OF THE RENAISSANCE. F even years. A study of the vocal works of sixteenth century composers, especially Josquin, Lassus, Palestrina, Victoria, Byrd, Hassler, and Gibbons. Exercises in modal counterpoint. Singing and drill in aural perception. Listening repertory of compositions. Prerequisite: 203. Not offered 1969-70.

206 INSTRUMENTAL AND VOCAL POLYPHONY OF THE LATE BAROQUE. S even years. A study of contrapuntal practice of late Baroque composers, principally J. S. Bach. Exercises in tonal counterpoint. Singing and drill in aural perception. Listening repertory of compositions. Prerequisite: 204. Not offered 1969-70.

220 CHURCH MUSIC. S odd years. A study of the worship music of the major Christian traditions in relation to their liturgies. Principles of appropriate wor-

ship music are discussed in the light of the history of church music. Prerequisite: 204. Not offered 1969-70.

305 MUSIC OF THE CLASSICAL PERIOD. F odd years. A study of the principal forms of the Classic period from the keyboard music of Couperin, K.P.E. Bach, and Scarlatti through the major works of Haydn and Mozart to the late works of Beethoven. Analytic score studies of representative works. Listening repertory of compositions from the period. Several short papers. *Mr. Slenk.*

306 MUSIC OF THE ROMANTIC PERIOD. S odd years. A study of the principal forms of the Romantic period from Schubert and Schumann through Wagner. Analytic score studies of representative works. Listening repertory of compositions. Several short papers. Not offered 1969-70.

315 ARRANGING. F even years. Problems involved in writing for orchestra, band, and choir. A survey of the technical limitations of each instrument and of the human voice. Arrangements written by class members will be performed by student organizations whenever practicable. Prerequisite: 104. Not offered 1969-70.

316 ARRANGING. S even years. Continuation of 315, which is its prerequisite. Not offered 1969-70.

407 COMPOSITION. F even years. Writing in contemporary forms and according to contemporary practice. Prerequisite: 304 or permission of the instructor. Not offered 1969-70.

408 COMPOSITION. S even years. A continuation of 407. Prerequisites: 407 and permission of the instructor. Not offered 1969-70.

GENERAL COURSES

211 AN INTRODUCTION TO MUSIC. F, core. A general course designed to develop intelligent discrimination in the listener. Structural principles and aesthetic content with reference to the various forms and styles of music are considered with emphasis on the Baroque

and Romantic periods. Listening, term paper, book reports. No prerequisite. *Mr. De Jonge.*

212 AN INTRODUCTION TO MUSIC. S, core. A course similar to 211 but with different content. Includes the music of representative composers of the Medieval, Renaissance, Classical, and Modern-Contemporary Periods. Listening, term paper, book report. No prerequisite. *Mr. De Jonge.*

219 CHURCH MUSIC. F odd years, core. A historical survey of the worship music of the Hebrews, early Christian church, the Roman church, and the churches of the Reformation. Principles of appropriate worship music are discussed in the light of the history of church music. No prerequisite. Recommended for pre-seminary students. Not offered 1969-70.

301 HISTORY OF MUSIC. F, core. A study of the art of music from its origins through the Baroque. Score studies, listening repertory, and reading. *Mr. Slenk.*

302 HISTORY OF MUSIC. S, core. A study of the art of music from the Classic period to the present. Score studies, listening repertory, and reading. *Mr. Slenk.*

313 CONDUCTING. S, half course. A course in basic, general conducting leading to the conducting of either instrumental or choral literature in the second half of the course. Two hours of class and two hours of conducting laboratory per week. Prerequisite: 104. Should be taken by music education majors in the sophomore year. *Mr. Slenk.*

326 CHAMBER MUSIC. F odd years, core. A general course designed to provide the historical and musical background necessary for perceptive listening to music for small ensembles. The Cayvan Collection of recordings and scores will be used to give the student an insight into music written for trios, quartets, and quintets of string or wind instruments. Not offered 1969-70.

MUSIC EDUCATION

222 ELEMENTARY SCHOOL MUSIC. F and S. This course is designed to pre-

pare the classroom teacher for teaching music in the elementary grades. It includes the development of personal skills in singing, playing, listening, and teaching; the study of the fundamentals of music and musical styles; consideration of current materials, methods, and philosophy of teaching music. No prerequisite. Music 331 may be elected as a substitute. *Miss Huisman, Mr. Topp.*

331 ELEMENTARY SCHOOL MUSIC, Advanced. F. Open to music education majors, elementary education majors with previous musical experience, and music minors. Goals and scope are similar to Music 222, except that less time is spent developing skills in theory, singing, and playing so that more time may be devoted to development of skills in teaching and to a consideration of materials, philosophy, and methods. No prerequisite. Not open to students who have taken Music 222. This course should be substituted for Education 314 by students who major in vocal or instrumental music education. *Mr. Topp.*

332 SECONDARY SCHOOL VOCAL MUSIC. F and S. A seminar devoted to the study of methods, materials, and underlying philosophy for the vocal and academic music curriculum in junior and senior high schools. Individual research. This course substitutes for Education 314 and is taken concurrently with student teaching (Education 344). Open to vocal music education majors. *Mr. Topp.*

333 SECONDARY SCHOOL INSTRUMENTAL MUSIC. F and S. A seminar devoted to the study of methods, materials, and underlying philosophy for the instrumental and academic music curriculum in junior and senior high schools. Individual research. This course substitutes for Education 314 and is taken concurrently with student teaching (Education 344). Open to instrumental music education majors. *Mr. Topp.*

APPLIED MUSIC

INDIVIDUAL LESSONS

Students enrolling in any course in this section must also register for 199-200.

109-110, 209-210, 309-310, 409-410 ORGAN. Quarter course. Individual lessons in organ. *Mr. Hamersma.*

109c-110c, 209c-210c, 309c-310c, 409c-410c ORGAN. Half course. Individual lessons for the music major concentrating in organ. *Mr. Hamersma.*

117-118, 217-218, 317-318, 417-418 VOICE. Quarter course. Individual lessons in voice. *Mr. De Jonge.*

117c-118c, 217c-218c, 317c-318c, 417c-418c VOICE. Half course. Individual lessons for the music major concentrating in voice. *Mr. De Jonge.*

141-142, 241-242, 341-342, 441-442 PIANO. Quarter course. Individual lessons in piano. *Mrs. Rus, Mrs. Knol.*

141c-142c, 241c-242c, 341c-342c, 441c-442c PIANO. Half course. Individual lessons for the music major concentrating in piano. *Mrs. Rus, Mrs. Knol.*

161-162, 261-262, 361-362, 461-462 STRINGS. Quarter course. Individual lessons in violin, viola, violoncello, or bass viol.

161c-162c, 261c-262c, 361c-362c, 461c-462c STRINGS. Half course. Individual lessons for the music major concentrating in violin, viola, violoncello, or bass viol.

171-172, 271-272, 371-372, 471-472 WOODWINDS. Quarter course. Individual lessons in flute, oboe, clarinet, bassoon, or saxophone.

171c-172c, 271c-272c, 371c-372c, 471c-472c WOODWINDS. Half course. Individual lessons in flute, oboe, clarinet, bassoon, or saxophone.

181-182, 281-282, 381-382, 481-482 BRASSES. Quarter course. Individual lessons in cornet, horn, baritone, trombone, or bass horn.

181c-182c, 281c-282c, 381c-382c, 481c-482c BRASSES. Half course. Individual lessons for the music major concentrating in cornet, horn, baritone, trombone, or bass horn.

191 PERCUSSION. Quarter course. Individual lessons in snare drum, tympani, and other percussion instruments.

CLASS LESSONS

199-200 **REPERTORY CLASS AND STUDIO CLASSES.** F and S, no credit. Performance classes for students of applied music for the purpose of gaining experience in public performance and increasing knowledge of music literature. Attendance is required of all music majors and students registered for individual lessons in applied music. *Staff.*

329 **STRINGS AND PERCUSSION.** S odd years. Class lessons in string and percussion instruments for the music major concentrating in instrumental music education. *Staff.*

330 **BRASSES AND WOODWINDS.** F even years. Class lessons in brass and woodwind instruments for the music major concentrating in instrumental music education. Not offered 1969-70.

ENSEMBLES

101-102 **ORATORIO CHORUS.** No credit. The study of representative works of the great masters of choral writing with a view to public performance. Handel's *Messiah* is rendered annually at Christmas time. Another oratorio is presented in the spring. Open to all who meet the requirements of voice and musicianship

113-114 **VARSITY BAND.** Quarter course. Membership in this band is open to all students who have some experience on a wind or percussion instrument. It is designed for students whose schedules or qualifications do not permit their immediate membership in the concert band. The band plays for athletic events, and other college functions. One rehearsal a week. Not offered 1969-70.

207-208 **A CAPPELLA CHOIR.** Quarter course. Representative works in the field of choral literature are studied and a limited number of selections are prepared for concert performance. Open only to those who meet the demands of voice and musicianship. *Mr. Slenk.*

213-214 **CONCERT BAND.** Quarter course. Representative works in the field of band literature are studied and prepared for concert performance. Open to all students who meet the demands of musicianship. *Mr. Worst.*



215-216 **ORCHESTRA.** Half course per year. Representative works in the field of chamber and symphony orchestra literature are studied and prepared for concert performance. Open to all students who meet the demands of musicianship. One two-hour full orchestra rehearsal per week, plus a one-hour string sectional rehearsal.

227-228 **CHAMBER BAND.** No credit. This band offers instrumental music majors and other qualified players an opportunity to perform works particularly suited to a wind ensemble of about forty members. Open to a select group of players from the Concert Band. One rehearsal per week. Not offered 1969-1970.

1969-70 INTERIMS

20 **THE ART SONG.** A study of the art song from its earliest known beginnings in the thirteenth century to the present era, with emphasis upon the German Lied of the nineteenth century. *Mr. De Jonge.*

30 **THE SACRED MUSIC OF JOHANNES BRAHMS.** A detailed study of the structure and meaning of the major sacred

works of Johannes Brahms, concentrating on *Ein Deutsches Requiem* and *Elf Choralevorspiele*. Mr. Hamersma.

31 INDEPENDENT STUDY FOR SOLO PERFORMANCE. This course is for the senior music majors concentrating in performance. The interim is to be used for preparation of the required public senior recital. Staff.

40 WHAT TO LISTEN FOR IN MUSIC. Core. A course designed to develop in the general college student the understanding and skills necessary for intelligent listening to music of various styles

and forms. The course will involve: reading, workbook assignments, and listening to live, and recorded performances, and will culminate in eight to ten performances by musicians from campus and community. Miss Huisman, Mr. Topp.

41 THE MUSIC OF HEINRICH SCHUETZ. A seminar devoted to the study and performance of the music of Heinrich Schuetz. Lectures on the relationship of Schuetz's music both to the avant-garde of his day and to the traditions of Lutheran liturgical music. Mr. Slenk, Mr. Stapert.

Philosophy

Professors Orlebeke, A. Plantinga, Prins, *Runner, Wolterstorff (chairman)
Assistant Professors De Vos, Konyndyk
Instructor Mouw

BEFORE APPLYING for admission to a major program a student must have completed either 151 or 153 with a minimum grade of C (2.0). The program of concentration requires eight courses including one course in logic, two courses in Perspective in Philosophy (151-152), two historical period courses (210, 220, 230, 340), one historical figure or movement course, and two courses in systematics, including one from the advanced level. Students may also meet the departmental requirements by completing Introduction to Philosophy (153) and an intermediate-level systematics course instead of 151-152, provided the historical period courses are chosen from 210, 220, and 230. A four-unit cognate sequence approved by the student's adviser is required in another department.

If a student wishes to present one course toward the core requirement in philosophy, it should be 153. If he wishes to present two courses, they should be: 151 and 152; 153 and either 171 or 173; or 153 and any intermediate level course or interims 20, 21, or 30.

ELEMENTARY COURSES

151 and 152 PERSPECTIVE IN PHILOSOPHY. F and S. A year-long introduction to philosophy which aims to give the student a Christian philosophical framework for his thinking, along with some awareness of important alternative philosophical frameworks (philosophical perspectives), and of important alternative answers to some of the fundamental problems. It also aims to give the student some sense of the history of philoso-

phy. 151 is a prerequisite to 152. Mr. Orlebeke, Mr. Prins, Mr. Wolterstorff.

153 INTRODUCTION TO PHILOSOPHY. F and S. A one-semester introduction to philosophy, with fundamentally the same aims as the Perspective in Philosophy course, except that it will not aim to acquaint the student with the history of philosophy. Mr. De Vos, Mr. Mouw, Mr. Runner.

171 INTRODUCTION TO LOGIC. F and S.

A course in elementary deductive and inductive logic with emphasis upon the use of logic in evaluating arguments. Suitable for freshmen; not recommended for students majoring in philosophy. *Mr. De Vos.*

173 INTRODUCTION TO SYMBOLIC LOGIC. F. A course in elementary symbolic logic, including some modal logic. This course is designed for students majoring in philosophy, science, and mathematics. Open to qualified freshmen. *Mr. A. Plantinga.*

INTERMEDIATE SYSTEMATIC COURSES

All intermediate courses presuppose one course in philosophy.

203 PHILOSOPHY OF SCIENCE. F. A study of philosophical problems arising out of the methods and results of modern science. *Mr. Orlebeke.*

205 ETHICS. F and S. A course designed to deal both historically and situationally with the persistent problems of the moral life. *Mr. De Vos, Mr. Mouw.*

207 POLITICAL AND SOCIAL PHILOSOPHY. S. A systematic study of the problems of social and political thought, historically oriented, with emphasis on political and social ideals, such as political and social justice; equality and the law; the basis of social and political authority; rights and obligations. *Mr. Mouw.*

208 AESTHETICS. F. A study of the nature of art and of aesthetic judgments. *Mr. Wolterstorff.*

209 PHILOSOPHY OF EDUCATION. A study of the nature, aims, and principles of education. Not offered 1969-70.

INTERMEDIATE HISTORICAL COURSES

All intermediate courses presuppose one course in philosophy.

210 HISTORY OF ANCIENT PHILOSOPHY. F and S. A history of philosophy in the Greek and Hellenistic periods. *Mr. Runner.*

220 HISTORY OF MEDIEVAL PHILOSOPHY. F and S. A history of philosophy from Augustine to the Renaissance.

230 HISTORY OF MODERN PHILOSOPHY. F and S. A study of selected philosophies of the seventeenth and eighteenth centuries. *Mr. Konyndyk, Mr. A. Plantinga.*

ADVANCED HISTORICAL COURSES

All advanced courses presuppose two courses in philosophy.

311 PLATO. Study of the later Platonic dialogues.

312 ARISTOTLE. Advanced study of Aristotle.

321 AUGUSTINE. An attempt is made to assess the philosophy of Augustine by studying particularly the *Cassiciacum* dialogues in the light of the philosophy of the period. Readings of later writings down through the *De Civitate Dei* and the *De Trinitate* in selection.

322 THOMAS AQUINAS. A course in Thomistic thought, including analysis of portions of the *Summa Theologica*.

331 KANT. F. A study of the *Critique of Pure Reason*. *Mr. Prins.*

332 HEGEL. S. A study of Hegel's philosophy. *Mr. Prins.*

333 THE PHILOSOPHY OF KIERKEGAARD. An intensive study of the major writings of Kierkegaard, especially *The Philosophical Fragments* and *The Concluding Unscientific Postscript*.

340 CONTEMPORARY PHILOSOPHY. S. A study of the history of philosophy in the past one hundred years, or of some major movements of this period.

341 AMERICAN PHILOSOPHY. A critical study of major movements in the history of American philosophy, with special emphasis on the pragmatism of Peirce, James, and Dewey.

ADVANCED SYSTEMATIC COURSES

All advanced courses presuppose two courses in philosophy.

371 EPISTEMOLOGY. F. A study of the nature, sources, types, and limits of human knowledge. *Mr. De Vos.*

375 PHILOSOPHY OF MIND. F. An examination of recent discussions of the

traditional problem of the mind-body relationship, with special attention to such issues as the nature of consciousness, mental acts, volition, intention, and the "mind-body identity" thesis. *Mr. Mouw.*

381 ADVANCED LOGIC. S. Topics include the formalization of propositional and quantificational logic. *Mr. Konyndyk.*

385 PHILOSOPHY OF RELIGION. F. A study of the rational justifiability of certain beliefs central to Christianity. *Mr. A. Plantinga.*

395 ONTOLOGY. S. A study of selected topics in ontology. *Mr. Wolterstorff.*

390 READINGS AND RESEARCH. F, I, S. Prerequisite: permission of chairman. *Staff.*

400 SEMINAR.

1969-70 INTERIMS

20 THEORIES OF PUNISHMENT. Theories of punishment: deterrence, retribution, reformation, and other modified views of punishment will be discussed historically and analytically. Text: H. L. Hart, *Punishment and Responsibility: Essays in the Philosophy of Law*. Prerequisite: two courses in philosophy or permission of instructor. *Mr. Prins.*

30 G. VANDER LEEUW: SACRED AND PROFANE BEAUTY. A careful study and critical evaluation of Gerardus Vander Leeuw's great book, *Sacred and Profane*



Beauty: The Holy in Art. Discussions three times per week and a paper. Prerequisite: two courses in philosophy or permission of instructor. *Mr. Wolterstorff.*

40 PROTEST AND CIVIL DISOBEDIENCE. Lectures, discussions, and readings on the nature, types, effectiveness, and justification of civil protest, and the extent to which a Christian may engage in such protest. Readings will be selected from the works of Thoreau, Tolstoy, Gandhi, Fortas, King, and certain contemporary writers. *Mr. De Vos.*

Physical Education

Professor Steen (chairman)

Assistant Professors Tuuk, D. Zuidema, M. Zuidema, Vroon

Instructors Honderd, Knoppers, K. Timmer

Assistant Instructor Vander Berg

The department serves dual functions—it provides a required but flexible two-year sequence of physical education for all students; it also offers professional training for physical education teachers and coaches.

Before applying for admission to the professional concentration a student must have completed 190 and Biology 205 with a minimum average grade of C (2.0). The program includes 190, 201, 212, four half-courses from the 230 series, 301, 302, 312, and Biology 205. The coaching minor

requires 201, 212, two half-courses from the 230 series, 30, and Biology 205. The teaching minor must total at least six courses including 190, 201, and 302.

BASIC PHYSICAL EDUCATION

This program is concerned with the conditioning and training of the body and with the development of physical recreation competence and understanding. Emphasis is also given to an understanding of what occurs in man through muscular activity, how he can utilize and control this phenomenon, the relation of this activity to other cultural forces and disciplines, and the way man is formed by it.

The required program consists of four semesters of instruction and participation which should be taken in sequence—Foundations (100), typically taken during the Fall or Interim of the first year, followed by the Developmental Program (120-139), the Recreational Program (140-159), and the Advanced and Elective Program (160-179). This program may be modified for older students and for those with handicaps, who may be placed in the Adaptive Program (110). (Such students should confer with a departmental representative during registration.) Typically, the physical education requirement should be completed by the end of the student's second year.

100 FOUNDATIONS. F and I, quarter course. This introductory course serves as the basis for the entire physical education program. The intent of this course is: to help the student understand the Christian perspective of physical education; to develop within the student a Biblically-oriented outlook on physical efficiency and the role of recreation and sports in our culture; to aid the student in acquiring a realistic self-image concerning physical conditioning and training; to aid the student in understanding the anatomical and physiological function of man, and the role of this function in the mechanics of everyday living; to encourage the student to train in the various facets of physical efficiency; and to aid the student in planning his future in these areas. *Staff.*

110 ADAPTIVE PROGRAM F, I, and S, quarter course. This is a specialized program for students who have needs which cannot be met in the regular program (e.g. older students or students with physical handicaps). Adaptive and corrective activities will be programmed. Students will be assigned to regular activities or special programs. Special individual programs are prescribed after consultation with the college physician. *Miss Knoppers.*

120-139 DEVELOPMENTAL PROGRAM. I and S, quarter course. This course consists of two units of activities. Students are guided into these activities on the basis of their need to develop one or more aspects of physical efficiency and/or to develop interest and skill in culturally relevant sports.

140-159 RECREATIONAL PROGRAM. F and I, quarter course. This course consists of two units of activity designed to develop lasting interest and skill in recreational activities.

160-179 ADVANCED AND ELECTIVE PROGRAM. I and S, quarter course. This final course in the program seeks to cap the emphasis of the entire program. Students are given the opportunity to elect conditioning and/or training activities that will best contribute to their total needs and goals. Activities are offered that will provide an opportunity to continue to develop or maintain an optimal level of physical condition and/or to continue to develop advanced training skills in recreational activities.

PROFESSIONAL COURSES

190 INDIVIDUAL COMPETENCES. The course will offer opportunity for physical education majors to develop the physical

condition and skill necessary for the beginning teacher of physical education. It will require active participation and competence in a variety of skills. The course will run for the entire period of a student's work in his concentration. Students should apply for admission to this course as soon as they have decided to enter the field of physical education. Credit will be given only for skills acquired after admission. Students are required to have 240 hours of participation. A comprehensive examination will be given during the senior interim. Elements of this course are prerequisites for 230 courses. *Mr. Vroon, Miss Timmer.*

201 HISTORY AND PERSPECTIVE. F. The course deals with two areas—the history of physical education in the civilized world, and the problems, purposes, and philosophical implications of physical education as they affect man in general and educational institutions in particular. *Mr. Steen.*

212 KINESIOLOGY. F. A study of human motion from the scientific standpoint. Particular attention is given to a mechanical analysis of musculoskeletal movements as applied to games, sports, and daily living. Prerequisite: Biology 205. *Mr. Honderd.*

221 ELEMENTARY SCHOOL ACTIVITIES AND PROGRAMS. F, I, and S, half-course. Designed primarily to give a working knowledge of the fundamentals of physical education planning for elementary school children (Primary, k-3; Intermediate, 4-6). Substitutes for one semester of basic physical education in the core. *Staff.*

230-239 THE TEACHING AND COACHING OF ACTIVITIES. Half course. Students with a major concentration in physical education must combine various courses to total the required two-course credit. Prerequisite: a record of participation in skill performance or completion of the same activity in 190.

230 Field Hockey/Soccer (for women). F. Miss Knoppers, Miss Timmer.

231 Basketball/Softball (for women). F. Mrs. Vander Berg, Miss Zuidema.

232 Individual and Dual Sports. Volleyball/Gymnastics. F. Miss Timmer, Mr. Vroon, Miss Zuidema.

233 Track and Fields. S. Mr. Tuuk.

234 Basketball (for men). F. Mr. Vroon.

235 Soccer (for men). F. Mr. Zuidema.

236 Football (for men). F. Staff.

237 Baseball (for men). S. Staff.

301 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION. S. A study of the evaluation techniques in physical education. Emphasis on evaluation of physical fitness, body mechanics, growth, motor ability, sport skills, knowledge of health practices and sports activities, and program evaluation. Consideration is given to the organization of evaluation programs and the use of such programs. The course gives opportunity for practical experience in administering tests. *Mr. Zuidema.*

302 ORGANIZATION OF THE CURRICULUM AND PROGRAM OF PHYSICAL EDUCATION. S. A study of the structure and curricula of modern physical education programs of elementary and secondary schools and the closely-related areas of administration of athletics, intramurals, recreation, and health programs. Opportunity is given to construct total programs of physical education for selected schools. *Mr. Steen.*

303 LEADERSHIP IN RECREATION PROGRAMS. S, half course. The first half of this course deals with the elementary school program. This course studies the organization of recreation programs and gives opportunity for observing programs in action, for structuring new programs, and for developing leadership skills. *Mr. Tuuk.*

312 PHYSIOLOGY OF CONDITIONING AND INJURIES. The course will be concerned with the prevention and care of injuries which are the result of participation in the physical education program. Prerequisite: 212 and Biology 205. *Staff.*

1969-70 INTERIMS

10 BASIC PHYSICAL EDUCATION CLASSES. Fulfills physical education core requirements; equivalent to 100-179. *Staff.*

20 RECREATION IN MODERN SOCIETY. A study of modern concepts, programs, and trends of recreation and play in our culture. Designed to investigate the nature, the kinds, and the philosophical aspects

of play and recreation through lectures, class projects, and field work with community programs. *Mr. Steen.*

30 PHYSICAL EDUCATION FOR ATYPICAL PERSONS. This course attempts to acquaint the physical education student with the knowledge and skills necessary to plan and conduct a program of exercises and activity which will meet the special needs of any person who deviates from the average to such an extent that he needs modification of the regular

physical education program to develop to his maximal capacity. *Miss Timmer.*

40 ADAPTED AND DEVELOPMENTAL PHYSICAL EDUCATION. The assessment of the needs and fitness levels of normal and exceptional children: developmental and conditioning activities for students with low physical fitness status; adaptation of physical education to the special needs of exceptional children; lectures, laboratory experiences and observations. *Miss Knoppers.*

Physics

Professors Ehlers, Griffioen (chairman), Kromminga

Associate Professor Van Till

Assistant Professors Menninga, Van Zytveld

Assistant Instructor G. Vander Lugt

STUDENTS intending to major in physics are advised to enter college with four years of mathematics and to take their basic courses in mathematics (Math. 111, 112, 211, 212) and physics (Physics 126, 225, 226) during their freshman and sophomore years. A student may apply for admission to the department before completing 226 and Mathematics 212, but he must have completed the designated courses with a minimum average grade of C (2.0) before he can be admitted for the major. The program of concentration includes, in addition, 335, 336, 345, 346, 375, 376, 381 or an interim course in electronics, and 382 or an interim course in modern physics laboratory. Students planning to do graduate work in physics should also take 365, 400, and 401 or an interim course in research. The program for secondary teachers requires a minimum of nine college courses, including Philosophy 203, Physics 126, 225, 226, 335, 375 or an interim course in modern physics, 381 or an interim course in electronics, 382 or an interim course in modern physics laboratory, and 345-346 or an interim course in electricity and magnetism.

A teaching group major in physics and mathematics consists of Mathematics 111, 112, 211, 212, 321, and 351; Physics 126, 225, 226, 381, 382, and one course from: 335, an interim in modern physics, or an interim in electricity and magnetism. A group minor in the same fields consists of Mathematics 111, 112, and 211; Physics 126, 225, 226, 381, and 382.

The physical science core requirement may be met by 110, 112, 222, 225, Chemistry 104, and interims 10 and 40.

INTRODUCTORY COURSES

110 PHYSICAL SCIENCE. F and S, core. This course evaluates the basic assumptions used in the scientific study of nature, discusses the methods of scientific investigation and the development of scientific theories, and presents the results of scientific investigations in the fields of physics and chemistry. Its purpose is to acquaint students with the fundamental laws of physics and chemistry and to explain certain important physical phenomena. This course is designed primarily for non-science majors, and is not open to those who have taken (or plan to take) Physics 112, 126, or 221. Prerequisites: high school algebra and Mathematics 109 or its equivalent. *Staff.*

112 PHYSICAL SCIENCE. F and S, one and a half courses, core. The lecture portion of this course is primarily the same as Physics 110. A laboratory is designed to emphasize the experimental aspects of the scientific method, and generally involves in-depth study of elementary topics, rather than the performance of standard experiments or the precise measurement of physical quantities. Not open to those who have taken or plan to take Physics 110, 126, or 221. Prerequisites: high school algebra and Mathematics 109, or its equivalent. *Staff.*

126 INTRODUCTORY PHYSICS. S. This is the first course of a three-semester sequence (126, 225, 226) for students of science and engineering. This sequence gives an introduction to the major fields of physics: mechanics, heat, waves, electricity and magnetism, atomic physics, and nuclear physics. Prerequisite: Mathematics 111. *Staff.*

221 GENERAL PHYSICS. F. This course is designed for those who do not intend to do further work in physics. The major areas of physics are discussed: mechanics, heat, electricity and magnetism, waves, relativity, quantum theory, and particle physics. Prerequisites: plane trigonometry and high school algebra. *Mr. Kromminga.*

222 GENERAL PHYSICS. S, core. A continuation of 221, which is a prerequisite. *Mr. Kromminga.*

225 INTRODUCTORY PHYSICS. F, core. A continuation of Physics 126. Prerequisites: 126 and Mathematics 112. *Staff.*

226 INTRODUCTORY PHYSICS. S. A continuation of Physics 225. Prerequisites: 225 and Mathematics 211. *Staff.*

ADVANCED COURSES

Prerequisites for all of the 300-level physics courses are 226 and Mathematics 212.

335 INTERMEDIATE MECHANICS. F. A review of the fundamental principles of Newtonian mechanics; a study of the motion of a particle in a central force field; a study of charged particles moving in electric and magnetic fields, with application to modern accelerators; the simple harmonic oscillator; the rotation of a rigid body about a fixed axis; non-inertial reference frames; special relativity. *Mr. Van Till.*

336 ADVANCED MECHANICS. S. A study of coordinate transformations and generalized coordinates; the development of the Lagrangian and Hamiltonian formulations of mechanics with applications in conservative and non-conservative motion; the motion of a rigid body in space, the inertia tensor; the theory of small vibrations; a study of wave motion in continuous media; further topics in special relativity. Prerequisite: 335. *Mr. Van Till.*

345 ELECTROMAGNETIC FIELDS AND WAVES. F. A vector treatment of the basic experimental laws of Coulomb, Ampere, and Faraday; the Poisson and Laplace equations and their solutions; the use of the vector potential; energy considerations in the fields; Maxwell's equations and their application; electromagnetic radiation; physical optics; the phenomena of interference, diffraction and polarization. *Mr. Griffioen.*

346 ELECTROMAGNETIC FIELDS AND WAVES. S. A continuation of 345, which is a prerequisite. *Mr. Griffioen.*

365 THERMODYNAMICS AND STATISTICAL MECHANICS. F. Discussion of the equation of state and the laws of thermo-

dynamics with application to some simple systems; the thermodynamic potentials; kinetic theory. Treatment of statistical mechanics dealing mainly with ensembles and distribution functions, calculation of entropy and the thermodynamic potentials with application to crystals and gases. Quantum statistical mechanics is considered. Prerequisites: 336 and 346. *Mr. Kromminga.*

375 MODERN PHYSICS. F. This course begins with a brief discussion of statistical mechanics and the fundamental experiments leading up to the quantum theory. The main emphasis is on wave mechanics and its application to atoms and molecules. One-electron atoms are discussed in detail. Additional topics discussed are electron spin, atomic spectra and structure, and x-rays. Nuclei and the solid state are also considered. Students are encouraged to take 336 before enrolling in this course. *Mr. Ehlers.*

376 MODERN PHYSICS. S. A continuation of 375, which is a prerequisite. *Mr. Ehlers.*

377 NUCLEAR PHYSICS. S. Properties and systematics of nuclei, forces between nucleons, nuclear models, and the dynamics of nuclear reactions. 376 should be taken concurrently. *Mr. Kromminga.*

378 INTRODUCTION TO SOLID STATE PHYSICS. S. An elementary survey of the classification and properties of solids. Ionic, covalent, molecular, metallic, and semi-conducting systems. Dielectric, thermal, magnetic, conductive, and mechanical properties of solids. Superconductivity, ferromagnetism, defects in solids. 376 should be taken concurrently. Not offered 1969-70.

LABORATORY COURSES

Prerequisites for the laboratory courses are Physics 226 and Mathematics 212.

381 ELECTRONICS. F, half course. An introduction to, and an analysis of, some of the basic electronic circuits commonly used in science and engineering research. *Mr. Van Zytveld.*

382 MODERN PHYSICS LABORATORY. S, half course. An introduction to the basic laboratory techniques in atomic and nuclear physics and a study of some of the more important experiments on which modern physical theory is based. Prerequisite: 381 or permission of the instructor. *Mr. Van Zytveld.*

390 ADVANCED READINGS IN PHYSICS. F, I, S. Independent readings in physics, under the supervision of a member of the departmental staff. Prerequisite: permission of the chairman.

400-401 PHYSICS SEMINAR AND RESEARCH. F, I, S, half course. Library and laboratory research on an approved topic and presentation of the result of the research in a departmental seminar. Prerequisite: 382 and the approval of the department. *Staff.*

1969-70 INTERIMS

10 THE UNIVERSE AND DR. EINSTEIN. Core. This course will study the development of the Special Theory of Relativity and the resulting overthrow of some common sense assumptions. There will be lectures, discussions, and readings of paperback books. Does not substitute for 112. *Mr. Vander Lugt.*

20 AGES OF ROCKS, FOSSILS, AND ARTIFACTS. Applies to elementary general science concentration, levels II and III. A discussion of the techniques used to determine the ages of rocks, meteorites, fossils, and artifacts, and an evaluation of the range of validity and of the limitations of those techniques. The assumptions inherent in the techniques will be discussed and the conclusions will be compared with those based on views which reject these assumptions. Lectures, discussions, and assigned readings. *Mr. Menninga.*

21 ELECTRONICS. Levels II and III. This course consists of a study of some of the basic electronic circuits commonly used in science and engineering research. The emphasis of the course is on an analysis of these circuits and their usefulness and limitations rather than on

the design of circuits. Prerequisite: Physics 222 or 225. *Staff*.

30 INTERMEDIATE MODERN PHYSICS. Concepts from classical physics essential to an understanding of modern physics are reviewed. Major topics considered are kinetic theory, discovery of electrons and other fundamental particles, quantum effects, elementary quantum theory, atoms, solids, and nuclei. Not recommended for physics majors intending to pursue graduate work in physics. Prerequisite: Physics 226, Mathematics 212.

31 EXPERIMENTS IN MODERN PHYSICS. This course consists of the study and performance of important experiments in modern physics. The emphasis is placed on independent work by students. It is intended that this course acquaint future graduate students with the full-time research effort required in graduate work.

Prerequisite: Physics 381 or equivalent. *Mr. Van Zytveld.*

40 INTRODUCTION TO QUANTUM PHYSICS. Core, applies to elementary general science concentration. A study of quantum phenomena. The emphasis will be on the evidence for the discontinuous variation of physical observables. Topics will include: atomic theory, charge of the electron, energy quantization, and fundamental particles. Does not substitute for 112. Prerequisite: High school physics or chemistry. *Mr. Kromminga.*

41 THE YEAR 2000. A study of man and his future. An analysis of the scientific and technological advances anticipated during the next thirty years and their effect upon man, his environment, his society, and his political situation. *Mr. Ehlers.*

Political Science

Professor Strikwerda (chairman, pro tem, Department of History and Political Science)

Associate Professors S. Monsma, Westra (program adviser)

Assistant Professor De Borst

*Instructor *De Vries*

STUDENTS planning a concentration in political science must complete 151 with a minimum grade of C (2.0). The program requires, in addition, 201, 203 or 303, 302, 305, 306, 307, and one interim course in political science. Cognates must include two courses in economics (Econ. 151 plus one from 321, 331, 335, or 342), one course in psychology, and one course in sociology; or a four-course sequence in economics or history approved by the departmental adviser. The nine-course secondary education major should also include 202. Students planning to take the foreign service examination should consult Mr. De Borst about their academic programs.

The core requirements in political science may be met by 151, 201, or 300.

151 INTRODUCTION TO POLITICS. F and S, core. An introduction to political science. Analyzes the nature of the political process, the methods political scientists use in studying it, and some of the key concepts and terminology they have developed to explain it. *Staff.*

201 AMERICAN POLITICS. F and S, core. A study of American national politics. Emphasis is on the social context, constitutional foundations and the major institutions, process and functions of American politics. *Mr. S. Monsma.*

202 AMERICAN STATE AND LOCAL POLITICS. S. A study of American politics on the state and local levels. A comparative approach is used to analyze existing problems and the differences and similarities in political patterns. *Mr. S. Monsma.*

203 COMPARATIVE GOVERNMENT—EUROPE. F. A study of the government and politics of four major European states: Great Britain, France, Germany, and the Soviet Union. Prerequisite: 151. *Mr. Westra.*

300 MODERN POLITICAL IDEOLOGIES. F and S, core. Study of the major ideologies of the twentieth century: communism, fascism, democracy. Does not apply to major. Intended for juniors and seniors who wish to fulfill the political science core. *Mr. Westra.*

302 POLITICAL BEHAVIOR. F. A critical study of the methods and techniques used to study political behavior; the findings of representative behavioral studies; political parties, public opinion and pressure groups, with special reference to the United States. *Mr. S. Monsma.*

303 COMPARATIVE GOVERNMENT—THE NON-WESTERN WORLD. S. A study of government and politics in some of the new states of Asia and Africa; problems of representative government and democracy in under-developed areas. *Mr. S. Monsma.*

304. AMERICAN POLITICAL THOUGHT. The nature of American political thought; analysis of the contributions of the Calvinist and Puritan traditions; British constitutionalism and the American Revolution; American constitutionalism; Jeffersonian and Jacksonian democracy; slavery and the nature of the Union; Social Darwinism and the age of enterprise and reform; traditional democracy and its critics. Not offered 1969-70.

305 HISTORY OF POLITICAL THOUGHT TO THE REFORMATION. F. The development of political thought from ancient Greece to the sixteenth century. *Mr. Westra.*

306 HISTORY OF MODERN POLITICAL THOUGHT. S. Representative political



theorists from the Reformation to the present. *Mr. Westra.*

307 INTRODUCTION TO INTERNATIONAL POLITICS. F. Analysis and critique of various theoretical approaches to the study of international politics; concepts of power; the nation-state and the doctrine of sovereignty; diplomacy; nationalism; imperialism; war; balance of power; collective security; and world government. *Mr. De Borst.*

308 PRINCIPLES OF AMERICAN FOREIGN POLICY. S. An analytical view of American foreign policy; its domestic sources; process of formulating policy; instruments of American diplomacy; the nature of U.S. relations with hostile powers, allies, the emerging nations, and the United Nations; the limitations and potentials of American foreign policy. *Mr. De Borst.*

309 INTERNATIONAL LAW AND ORGANIZATION. S. Analysis of the development of international law and of its current status; international organization: the United Nations and its related agencies; other supra-national organizations. *Mr. De Vries.*

310 CONSTITUTIONAL LAW. F. The American constitution as interpreted by the Supreme Court; analysis of leading cases, with special emphasis on constitutional limitations on government, problems of civil liberties. *Mr. De Borst.*

390 INDEPENDENT STUDY. F, I, S. Reading or directed projects for majors. Open with the permission of the chairman and the instructor under whom the work will be done. *Staff.*

400 SEMINAR.

1969-70 INTERIMS

40 GUERRILLA WARFARE. Analysis of guerrilla warfare as a social, political, and

military phenomenon. The course will include lectures, readings, and independent research on the theory and practice of guerrilla and counter-guerrilla movements. *Mr. S. Monsma.*

41 THE POLITICAL NOVEL. A study of how the novel has been used by various writers to deal with the subject matter of politics. Readings and discussion of several such novels. Emphasis will be on twentieth century political novels. *Mr. Westra.*

Psychology

*Professors *Bijkerk (chairman), Daling (chairman, pro tem), C. Plantinga, Youngs Associate Professor Reynolds*

Assistant Professors D. Entingh, Terborg, Van Opynen

INTRODUCTORY PSYCHOLOGY (151) must be completed with a minimum grade of C (2.0) by students intending to major in the department. All major programs require, in addition, 212, 305 or 306, 311, 331 or 332. Students intending to enter graduate school should complete at least nine courses, including 308, 312, one additional 300-level course, and 400, for which knowledge of statistics is a prerequisite. Those desiring a teaching major should take, in addition to the five basic courses, 250 or Mathematics 206, 308, and two 300-level courses. (A terminal major is possible with seven courses.) Students planning to enter graduate school in social work or guidance and counseling are advised to take the same program as those desiring a teaching major. Cognate courses in philosophy of science, in anatomy and physiology, and in sociology are recommended.

The core requirements in psychology may be met by 151, 204, or 212. Education 301 meets the requirement for students in teacher certification programs.

151 INTRODUCTORY PSYCHOLOGY. F and S, core. An introductory course intended to give the beginner some orientation to the field of psychology in general. *Staff.*

204 DEVELOPMENTAL PSYCHOLOGY. F and S, core. A study of the physical, motor, social, emotional, linguistic, intellectual, and valuational development of the child. An attempt is made to trace these aspects of the human being's development from babyhood through adolescence. *Mr. Daling.*

212 PSYCHOPATHOLOGY. F and S, core. The wide range of ways in which personality may become disordered. The importance of psychopathology for the understanding of normal development (mental hygiene) is discussed. Problems concerning origin and treatment are also considered. *Mr. C. Plantinga, Mr. Youngs.*

216 PSYCHOLOGY OF EXCEPTIONAL CHILDREN. F and S. A study of atypical children. This includes the gifted child, as well as children with partial defects of

intelligence, personality disorders, neuroses, and various neurological conditions. *Mrs. Bijkerk.*

250 **DESCRIPTIVE STATISTICS FOR SOCIAL SCIENCES.** F and S. An introduction to the major forms of descriptive statistics (measures of central tendency, variability, linear transformation, area transformation, correlation.) Both an understanding of and proficiency in the application of these concepts and techniques in the areas of education, psychology, sociology, etc. will be sought. *Mr. Reynolds.*

305 **HISTORY OF IDEAS IN PSYCHOLOGY.** F. An introduction to the theories and movements in psychology, both historical and contemporary. Philosophical implications will also be treated. Prerequisites: two courses in psychology. *Mr. C. Plantinga.*

306 **THE GROWTH OF AMERICAN PSYCHOLOGY.** S. An account of the origin and development of psychology in America with emphasis upon recent contributions. Prerequisite: two course in psychology. *Mr. Bijkerk.*

308 **INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY.** F. A critical survey of experimental methods, problems, materials, results, and conclusions, with major emphasis on perception and learning, but also some attention to broader problems of personality investigation. Laboratory work will be required. Open only to juniors and seniors intending to major in psychology who have had either 250 or Mathematics 206. *Mr. Terborg.*

310 **SOCIAL PSYCHOLOGY.** S. A study of individual human behavior in reaction to social environment, of the consequences of such social interaction for human personality, and of the behavior and consciousness of groups. Prerequisites: 151 and Sociology 203. Offered first semester by the Department of Sociology, second semester by the Department of Psychology. *Mr. Youngs.*

311 **THEORIES OF PERSONALITY.** F and S. An introduction to modern American and European theories concerning the psychological structure and dynamics of the human person. Prerequisite: 212. *Mr. Bijkerk, Mr. C. Plantinga.*

312 **PRINCIPLES OF PSYCHOLOGICAL MEASUREMENT.** F. This course aims to give the student an introduction to the theoretical and practical issues, viewpoints, and techniques of psychological testing in the areas of both intelligence testing and personality measures. Open only to juniors and seniors who have had 250 or Mathematics 206. *Mr. Reynolds.*

314 **CLINICAL PSYCHOLOGY.** S. An introduction to the science, techniques, and art of employing psychological means to promote the welfare or mental health of a person. Prerequisites: 212, 311, and 312.

322 **PERSPECTIVES OF PSYCHOLOGY.** S. In this course the purpose is to explore relationships of psychology to (or its involvement in) various issues in our culture, in such areas as literature, religion, art, or morality. Normally, in any given semester, major emphasis will be focused on only one of these areas. Permission of the instructor is necessary to enroll in this course. *Mr. C. Plantinga.*

330 **PSYCHOLOGY OF EMOTION AND MOTIVATION.** S. A thorough discussion of the psychological study of emotion and motivation. Recent research findings as well as theory formation in the areas of emotion and motivation is included. Prerequisite: Psychology 151. *Mr. Entingh.*

331 **PSYCHOLOGY OF SENSATION, PERCEPTION, AND COGNITION.** F. A detailed examination of the functions of perception and thought in man. Various theories as well as current research trends will be discussed. Prerequisite: Psychology 151. *Mr. Entingh.*

332 **PSYCHOLOGY OF LEARNING PROCESSES.** S. A presentation of empirical strategies and theory formation in the area of the psychology of learning. The importance of learning theory for psychology in general is stressed. Prerequisite: Psychology 151. *Mr. Terborg.*

390 **READINGS AND RESEARCH.** F, I, S. Prerequisite: permission of the chairman.

400 **SENIOR SEMINAR ON ISSUES IN CONTEMPORARY PSYCHOLOGY.** S. A presentation and discussion of papers

based on current psychological literature and empirical research. Either modern foreign language competence or special statistical proficiency will be employed by the students. Open to seniors majoring in psychology. Prerequisite: statistical competence. *Mr. Bijkerk.*

1969-70 INTERIMS

20 READINGS IN ADLER AND HORNEY. An intermediate level course intended to introduce the student to the more important and characteristic ideas of Alfred Adler and Karen Horney. *Mr. C. Plantinga.*

30 THEORETICAL PSYCHOLOGY. A course investigating critically the philosophical and methodological problems of theory formation in psychology. Primary

focus will be on the more general systems in psychological theory in which a basic view of man emerges with directive influence on the conduct of inquiry. Implications for a Christian perspective on the science of psychology shall be sought as the prime objective of the course as a whole. *Mr. Bijkerk.*

40 PSYCHOLOGY TODAY. A review of studies published in the magazine *Psychology Today*. These studies are written so that they can be read by the average layman. The student in this course will also be required to perform an experiment or two on a variety of topics, e.g., political attitudes in children; when will people help in a crisis; anonymity, and social behaviors (honesty, theft, etc.). *Mr. Terborg.*

Religion and Theology

*Professors J. Bratt (chairman), Holwerda, Minnema, *Smedes, Spykman*
Associate Professors W. De Boer, Primus, Sweetman, C. Vos, L. Vos

The curriculum of the department has been broadened to meet the needs of those preparing to teach religious courses in schools and to serve as directors of religious education in churches. To be eligible for a major, a student must have completed either 103 or 107 with a minimum grade of C (2.0). The program of concentration requires a total of nine courses in the department, including 206, 207, and 208, or departmentally-approved substitutes, 301, 303, and 308. A four-unit cognate sequence is required in another department approved by the student's adviser.

Students intending to major in Religious Education (History and Literature of Religion) should take 107, 108, 206, 303, 308, 319, and 400, plus three electives from departmental offerings. If the student wishes to take Greek to meet language requirements for graduation, two of the electives may be in New Testament Greek. One elective may be an interim course, chosen in consultation with the Director of Religious Education, Mr. Henry Hoeks. Religious education majors intending to teach in school or to serve in churches must also meet the requirements of the teacher-education program for the secondary level as described on page 48.

A minor in religious education consists of a sequence of six courses including the following groups: two courses in Biblical Studies, two courses in Theological and Religio-Cultural Studies, and one and a half courses in Religious Education. Courses taken in completion of a minor must be approved by the Director of Religious Education.

The core requirements in religion and theology may be met by selecting one course from 103, 107, or 108 and one from 206 or 301. Ideally 206 should be taken during the sophomore year and 301 during the junior or senior years. Any departmental course except interims may be chosen by students electing a third core course in religion and theology.

BIBLICAL STUDIES

103 **BIBLICAL THEOLOGY.** F and S, core. A study of the unfolding of the history of redemption as set forth within the historical framework of the Old Testament, inter-testamentary, and New Testament eras. Biblical books and Apocryphal literature are analyzed and the major themes of Scripture are explicated. May not be taken with 107-108. *Staff.*

107 **OLD TESTAMENT BIBLICAL THEOLOGY.** F, core. Biblical theology for religious education majors. Sophomores other than religious education majors may be admitted to the course for core credit by special permission. *Mr. C. Vos.*

108 **NEW TESTAMENT BIBLICAL THEOLOGY.** S, core. Continuation of 107. Sophomores other than religious education majors may be admitted for core credit by special permission. *Mr. Holwerda.*

207 **THE OLD TESTAMENT PROPHETICAL LITERATURE.** S even years. An intensive study of the place and role of the major and minor prophets in the canon of the Old Testament, the commentary they offer upon the history of redemption in Old Testament times, together with an exploration in depth of their basic themes toward their fulfillment in New Testament revelation. Prerequisite: 103. *Mr. C. Vos.*

208 **THE NEW TESTAMENT EPISTOLARY LITERATURE.** F odd years. An intensive study of the place and role of the epistles in the canon of the New Testament, the doctrinal and ethical interpretations which these epistles give of the redemption portrayed in the Gospels, the light they shed on the early Christian Church, and their abiding relevance and significance. Prerequisite: 103. *Mr. W. De Boer.*

302 **BIBLICAL ARCHAEOLOGY.** F even years. A study of the pertinent archaeological data which provide a background for or throw light upon the Biblical narrative. Prerequisite: 103 and junior or senior standing.

THEOLOGICAL STUDIES

206 **REFORMATION THEOLOGY.** F and S, core. A study of Christian doctrine as formulated in the Protestant Reformation and refined and elaborated by later Reformed theologians. Comparisons are drawn between the Reformed system and those of other branches of Christendom. Calvin's *Institutes of the Christian Religion* serves as a basic text. Not open to freshmen. *Staff.*

308 **CONTEMPORARY THEOLOGY.** F, odd years. Selected writings of significant contemporary theologians are read and evaluated. *Mr. Hoekema.*

312 **EARLY CHRISTIAN THEOLOGY.** S, odd years. A study of the growth of the church towards self-conscious commitment to an articulation of its faith from the subapostolic age through St. Augustine. Development and growth of thought will be emphasized and selected writings of major theologians will be studied. Open only to juniors and seniors. *Mr. Spykman.*

313 **ROMAN CATHOLIC THEOLOGY.** F, even years. The development of Roman Catholic theology from the medieval era to present times, finding its climax in Vatican II. The Council of Trent, the Counter-Reformation theology, papal encyclicals, and major schools of thought will be examined. *Mr. Spykman.*

HISTORICAL STUDIES

303 **GENERAL CHURCH HISTORY.** S, even years. A survey of the history of the Christian Church from its beginnings to the present time, noting devia-

tions from apostolic faith and practice, the interplay with the political, the great Church councils, the crises that emerge, divisions and reunions, and the confluence of forces that determine the complexion of the Christian Church today. Not open to freshmen. *Mr. J. Bratt.*

304 AMERICAN CHURCH HISTORY. S odd years. A consideration of the religious history of our country from the immigration period to the present. Attention is paid to the European background, the early church beginnings in their diversity, the colonial era, the westward movement, current ecumenism, and the major social and political developments in their influence upon the American religious scene. Consideration will also be given to the historical antecedents and the development of the Christian Reformed Church in America. Open only to juniors and seniors. *Mr. Primus.*

RELIGIO-CULTURAL STUDIES

301 STUDIES IN CALVINISM. F and S, core. An historically oriented study of Calvinism and its basic concepts. Its origin and development are traced, its impact upon cultures in which it took root as well as the impact of those cultures upon it is assessed, and its contemporary relevance is evaluated. Open to juniors and seniors only. *Staff.*

311 HISTORY OF CHRISTIAN SOCIAL THOUGHT. S odd years. A study of the interrelation of Christian teaching and society. From the history of the Christian Church certain periods and movements are selected to demonstrate the interaction of Christian faith and social forces. *Mr. Minnema.*

MISSIONS AND WORLD RELIGIONS

203 PRINCIPLES OF MISSIONS. F even years. A survey of Biblical material pertaining to missions. These materials are used in evaluating the contemporary problems of missions: i.e., nascent non-Christian religions, ecumenism, Mission in the ferment of social revolution. *Mr. Sweetman.*

204 HISTORY OF MISSIONS. F odd years. The record of missionary history through the ancient, medieval, and

modern periods is examined with a view to ascertaining the principles that come to expression, the methods employed, the areas covered, the chief figures, and the measure of success or failure. In the modern period the great missionary conferences of the twentieth century are analyzed and evaluated. Not open to freshmen. *Mr. J. Bratt.*

205 WORLD RELIGIONS. S even years. An analytical and critical study of the major non-Christian religions of our day: Primitivism, Hinduism, Buddhism, Shinto, and Islam. Attention is given to cultural and religious relationships with Christianity and problems of missionary approach. Open to juniors and seniors only. *Mr. Sweetman.*

RELIGIOUS EDUCATION

319 THEOLOGICAL AND HISTORICAL FOUNDATIONS OF RELIGIOUS EDUCATION. F. A survey of the major religious education programs from Old Testament times to the present. Through integrating theoretical study and examination of existing religious education programs, the students are guided in developing a relevant Biblical perspective on religious education.

390 READINGS AND RESEARCH. F, I. S. Prerequisite: permission of the chairman. *Staff.*

400 SENIOR SEMINAR IN INTERPRETATION OF BIBLICAL LITERATURE. S, half course. The principles of interpretation relevant to different types of Biblical literature are surveyed. The use of these principles in selected curriculum materials is analyzed and evaluated. Guidance is given in the practice of interpreting Bible passages for use in specific aspects of the program of religious education.

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20 THE CHRISTIAN REFORMED CHURCH IN AMERICAN CULTURE. A study of the reactions of the Christian Reformed Church to moral, political, social, and economic issues from its inception on American soil to the present. *Mr. J. Bratt.*

30 THE FAMILY IN THE OLD TESTAMENT. A study of the relationships be-

tween husband, wife, and children within the patriarchal structure and of the relevance of this study for today. *Mr. C. Vos.*

31 **CURRENT CRISIS IN ROMAN CATHOLICISM.** A study of contemporary trends in Roman Catholicism emerging out of the "New Theology" movement of recent decades and coming into focus at the Second Vatican Council; concentrating on developments in doctrine and practice during the papal regimes of Pius XII, John XXIII, and Paul VI; paying special attention to recent revolutionary changes in Roman Catholic thought on such problems as liturgy, ecumenicity, lay theology, Mariology, papal infallibility, education, public life, celibacy, and birth control. *Mr. Spykman.*

41 **THE CHURCH AND ITS RECENT CRITICS.** A study of the Church, its nature, and its critics. A number of books will be read and discussed with a view to ascertaining if/why/how the Church has failed in our society and what direction/form the Church should take in the future. *Mr. L. Vos.*

42 **JAPANESE NOVELS IN TRANSLATION.** Translations of novels written by contemporary Japanese authors (Yasunari Kawabata, Yukio Mishima, Junichiro Tanizaki, Jiro Osaragi, and Natsume Soseki) will be studied for the purpose of gaining an insight into the culture of Japan. *Mr. Sweetman.*

Sociology

Professors Holstege, Rottman (chairman)
Associate Professors Smit, Wilson
*Assistant Professor *Rice*
Visiting Instructor De Jong

STUDENTS are expected to complete 151 and 203 with a minimum average grade of C (2.0) to be eligible for admission to the major program. The concentration requires 151, four courses in theory (203, 310, 317, and 318 or 320), and four additional 300-level courses, excluding those in social work (300 and 301). At least one of these four must be taken from the area of social organization (302, 306, or 308) and one from the area of social institutions (304, 309, or 311). Courses in the cognate areas of economics, history, political science, and psychology are recommended.

The core requirement in sociology may be met by 151 or 203.

151 **SOCIOLOGICAL PERSPECTIVE ON SOCIETAL ISSUES.** F and S, core. Provides a brief theoretical and conceptual grasp of sociology as a body of knowledge dealing with group relationships as these affect both the individual and society. An attempt is made to articulate this knowledge and to demonstrate its use by showing how a sociological perspective offers a rational interpretation of issues current in our society. *Staff.*

203 **PRINCIPLES OF SOCIOLOGY.** F and S, core. The systematic study of the

structures, functions, and changes of social relationships. The course will include an intensive treatment of theoretical and methodological implications of the nature of the subject matter, the socialization process, the cultural heritage, social organization, and institutional alignments. Prerequisite: 151 or permission of the department. *Staff.*

210 **PHYSICAL ANTHROPOLOGY.** F and S. The main areas of physical anthropology are critically evaluated in terms of a Biblical view of man and the world.



These areas are: man in antiquity, the development of the races, and prehistoric archaeology. Relevant Scriptural passages are considered. *Mr. Wilson.*

300 HISTORY AND THEORY OF SOCIAL WORK. F. The course begins with a brief overview of the various types of social work which exist in our society; social case work, group work, and community organization are treated historically; government and church are analyzed. Religious implications of professional ethics, and definitions of need are traced. Prerequisite: 203 or permission of the department. *Staff.*

301 SOCIAL CASE WORK AND SOCIAL GROUP WORK. S. An analysis of social case work and group work principles, problems, and methods based upon theoretical and case material. Prerequisite: 300. *Staff.*

302 URBAN SOCIOLOGY AND COMMUNITY ORGANIZATION. S. A descriptive and theoretical analysis of the urban community and urban sub-cultures. The emphasis is on community structure, function, value systems, and style of life. Prerequisite: 203 or permission of the department. *Mr. Holstege.*

304 THE FAMILY. S. An intensive culturally comparative and historical analysis of the family as an institution. The contemporary courtship, marriage, and divorce patterns of the American family are also discussed. Prerequisite: 203 or

permission of the department. *Mr. Holstege.*

306 SOCIOLOGY OF DEVIANT BEHAVIOR. S. An analysis not only of the causes for, manifestations of, and ameliorative and preventive programs for, deviant behavior but also of the nature and source of the norms from which people deviate. Implications are drawn for various institutions, particularly the school and the church. Prerequisite: 203 or permission of the department. *Mr. Rottman.*

308 POPULATION AND SOCIETY. F. Introduction to demographic analysis of society. Includes a consideration of the major demographic theories of population growth and how these contribute to an understanding of population explosion; review of how the socio-cultural dimension of human society affects major sources of population growth: fertility, mortality, migration, and how variations in these reciprocally affect society; and analysis of causes and consequences of population size, distribution, and composition for human society. Prerequisite: 203 or permission of the department. Not offered 1969-70.

309 SOCIOLOGY OF EDUCATION. S. The school as a social institution, school-community relations, social control of education, and structure of school society. Prerequisite: 203 or permission of the department. *Staff.*

310 SOCIAL PSYCHOLOGY. F. Human behavior as a consequence of man's psychological make-up and his socio-cultural environment. Major attention is given to social interaction based on the reciprocal relationship which exists between personality structure and social structure. Special emphasis is given to concepts of self and role in the context of man's ability to communicate via symbols. Prerequisites: 203 and Psychology 151 or permission of the department. *Mr. Rottman.*

311 SOCIOLOGY OF RELIGION. F. A study of the organizational forms of religion, with special attention being given to the influence and effectiveness of the church in its function as a social institution and to the social influences which

have, in turn, affected the church. Prerequisite: 203 or permission of the department. *Mr. Smit.*

317 **SOCIAL ANTHROPOLOGY.** F and S. A study of the historical trends in anthropology that have led to its present day perspective. The concepts of functionalism and cultural relativism are examined and evaluated. The course surveys various cultural patterns around the world. Prerequisite: 203 or permission of the department. *Mr. Wilson.*

318 **ADVANCED SOCIOLOGICAL THEORY.** F. The development of sociology, with emphasis on its European backgrounds and formative stage in twentieth century United States. Appraisal of sociological pioneers, selected sociological concepts, theoretical and religious issues, and a general analysis of contemporary journal articles. Prerequisite: at least two courses in sociology beyond 203. *Mr. Holstege, Mr. Rottman.*

320 **SOCIOLOGICAL RESEARCH.** S. An intensive review of the research process as applied to the study of theoretical problems in social science. Provides instruction and direction to the student as

he formulates sociological hypotheses, constructs a research design to test them, collects and analyzes the data. Prerequisites: at least two courses in sociology beyond 203 and Psychology 250. *Mr. Rottman, Mr. Smit.*

390 **INDEPENDENT STUDY.** I. Prerequisite: permission of the chairman and of the instructor. *Mr. Holstege.*

400 **SEMINAR.**

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10 **SOCIAL STRATIFICATION.** Levels I and II. A study of social class in American society. Particular attention is paid to the pervasiveness of social class as a predictor of social phenomena. *Mr. De Jong.*

30 **ETHICAL AND PHILOSOPHICAL ISSUES IN SOCIAL RESEARCH.** The course will focus on two main subjects: the ethical and moral implications of treating human beings as objects of scientific inquiry, and the related question of human freedom as a factor in the methodology of the behavioral sciences. *Mr. Rottman.*

Spanish

Professor A. Otten (chairman, Department of Romance languages)

*Assistant Professors Siebring, *Vila (program adviser)*

Visiting Lecturer Cortina

Instructor Tagle

STUDENTS may declare for a program of concentration in Spanish after having completed two units of college Spanish with a minimum grade of C (2.0). The program of concentration includes eight regular courses and an interim. The regular courses are 201-202, 207-208, 303-304 or 307-308, and two courses chosen from 205, 305, or 306. Cognates in another foreign language through the 200-level, European or Latin American history, English literature, philosophy, history of music, or history of art are recommended. All courses above 102 meet core requirements in foreign language; all courses above 205 meet core requirements in the fine arts.

101 **ELEMENTARY SPANISH.** F. An introductory course in the use and comprehension of oral and written Spanish. *Staff.*

102 **ELEMENTARY SPANISH.** S. Continuation of Spanish 101.

201 **INTERMEDIATE SPANISH.** F, core.

Review of essential grammatical structures and further training in spoken and written Spanish. Readings from significant Spanish authors. Prerequisite: 101 and 102 or their equivalent. *Mrs. Cortina, Mr. Siebring.*

202 INTERMEDIATE SPANISH. S, core. Continuation of 201.

205 ADVANCED SPANISH. F. A course designed for the student desiring to pursue graduate studies in Spanish, to engage in the teaching of Spanish, or to achieve a high degree of competence in the language. Conducted in Spanish. Prerequisite: 202 or equivalent. *Mr. Vila.*

LITERATURE

207 READINGS IN SPANISH AND LATIN AMERICAN LITERATURE. F, core. An introduction to the major writers and movements in the history of the Spanish literature from the Middle Ages to the present day. The first semester deals with the literature of Spain, while the second semester deals with the literature

of Latin America. Lectures, readings, and reports. Conducted in Spanish. Prerequisite: 202. *Mrs. Cortina.*

208 READINGS IN SPANISH AND LATIN AMERICAN LITERATURE. S, core. Continuation of 207. *Mrs. Cortina.*

303 THE SPANISH NOVEL. F odd years, core. A study of the Spanish novel from *La Celestina* to the present. Reading and interpretation of key chapters in Spain's outstanding novels as well as complete works. A study is made of the chief characteristics of the various types of novels. Prerequisite: 202 or equivalent. Conducted in Spanish. *Mr. Vila.*

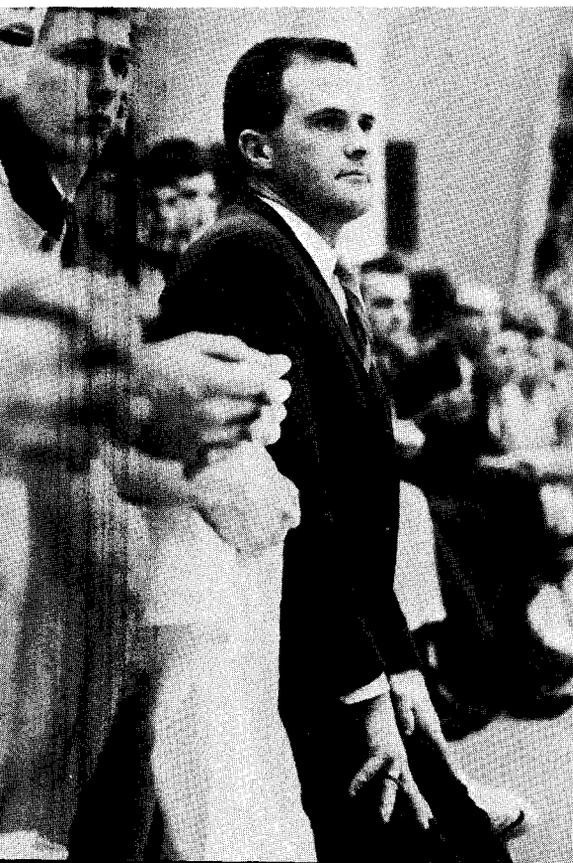
304 THE SPANISH NOVEL. F odd years, core. A continuation of 303. *Mr. Vila.*

305 SPANISH AND LATIN AMERICAN POETRY. F odd years, core. A study of the history and characteristics of Spanish poetry, by means of extensive readings and detailed examination of major poets. Special emphasis will be placed on the themes, forms, and techniques of poets of the last two centuries. Conducted in Spanish. Not offered in 1969-70.

306 SPANISH AND LATIN AMERICAN POETRY. S odd years, core. A study of the history and characteristics of Latin American poetry, by means of extensive readings and detailed examination of major poets. Special emphasis will be placed on the themes, forms, and techniques of poets from the Modernist generation to the present day. Conducted in Spanish. Not offered in 1969-70.

307 THE LATIN-AMERICAN NOVEL. F odd years, core. A study of the novels of Latin America with particular emphasis on the last two centuries. Attention will be paid to the conditions that gave rise to the different types of novels, as well as to the intrinsic literary value of the novels themselves. Conducted in Spanish. Not offered 1969-70.

308 THE LATIN-AMERICAN NOVEL. S odd years, core. A continuation of 307. Not offered 1969-70.



309 THE SPANISH DRAMA. F even years, core. A study of the dramatic expression of Spain's Golden Age of literature. Particular emphasis will be placed on the drama of Lope de Vega, Tirso de Molina Calderón, and Alarcón. Conducted in Spanish. Prerequisite: 202 or equivalent.

310 THE SPANISH DRAMA. S even years, core. A study of the dramatic expression of Echegaray, Benavente, Lorca, Casona, and Buere Vallejo. Conducted in Spanish. Prerequisite: Spanish 309.

390 READINGS AND RESEARCH. F, I, S. Prerequisite: permission of the department.

400 SEMINAR.

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20 THE LATIN AMERICAN SHORT STORY. A study of the most important Latin American short stories. Readings, reports, discussion. Prerequisite: three semesters of college Spanish or the equivalent. *Mr. Siebring.*

Speech

Professors Berghuis (chairman), Noteboom
Associate Professors Ozinga, M. Vande Guchte
*Director of Drama, *Mrs. Boevé*
Instructors Holquist, Nykamp
Assistant Korf

STUDENTS should complete 100 and 200 with a minimum average grade of C (2.0) before applying for admission to the major program. In addition to these courses the program includes 203, 215, 219, plus three other courses in the department, and an interim. Recommended cognates for students interested in oral interpretation and drama include aesthetics, history of art, introduction to musical literature, Shakespeare, and non-Shakespearean drama of the Renaissance; for those interested in speech education or speech correction, child psychology, psychology of exceptional children, descriptive statistics for the social sciences, and anatomy and physiology; for those interested in public address, political behavior, psychology of emotion and motivation, social psychology, and logic.

A secondary school teaching major consists of 100, 200, 203, 215, 219, plus five other courses. The elementary school teaching major includes 200, 203, 214, 215, 219, plus four other courses. A secondary school teaching minor should include 200, 203, 215, 219, plus two other courses.

The core requirements in spoken rhetoric may be met by 100, 214, if the student is in the elementary education program, or by examination. This examination presupposes formal and practical speech training in high school. The fine arts core requirement may be met by 203, 219, 304, 317, 318, 325, and 326.

PUBLIC ADDRESS

100 FUNDAMENTALS OF ORAL RHETORIC. F and S, half course. Fundamentals of composition for public address, including emphasis on physical elements con-

tributing to directness in oral communication. *Staff.*

200 ADVANCED ORAL RHETORIC. F and S. Composition and presentation of types of speeches, readings in rhetorical

theory and criticism of selected contemporary speeches, types of discussion, and parliamentary law. Prerequisite: 100 or equivalent. *Mr. Nykamp.*

230 BROADCAST COMMUNICATION. F. A course in mass communication which traces the development of radio and television as a social phenomenon and introduces the student to practice in the medium. Prerequisite: 100 or equivalent. *Mr. Ozinga.*

305 THEORY AND PRACTICE OF PERSUASION. F and S. This course attempts to make the student a perceptive judge of persuasion in modern society and provides opportunities for persuasive speaking. Prerequisite: 100 or equivalent. *Mr. Ozinga.*

311 ARGUMENTATION, DISCUSSION, AND DEBATE. F. Theory and practice of argumentation, discussion, and debate in their various forms; the use of analysis, evidence, and informal logic. Prerequisite: 100 or permission of department. *Mr. Nykamp.*

312 INTERCOLLEGIATE DEBATE. Half course. Intercollegiate competition in debate. The activity runs throughout each school year.

325 ANCIENT AND MEDIEVAL RHETORICAL THEORY AND PRACTICE. Core. The contributions of such theorists as Plato, Aristotle, Quintilian, and Augustine; the speaking of such orators as Pericles, Demosthenes, and Cicero. Prerequisite: 200. Not offered 1969-70. *Mr. Ozinga.*

326 RENAISSANCE AND MODERN RHETORICAL THEORY AND PRACTICE. F even years, core. Renaissance rhetoric, the elocutionary movement, and contemporary rhetorical theory and speeches, with emphasis on such theorists as Bacon, Sheridan, and Burke; and on such speakers as Webster, Lincoln, Roosevelt, Hitler, and Churchill. Prerequisite: 200. *Mr. Ozinga.*

SPEECH EDUCATION AND SPEECH CORRECTION

214 SPEECH FOR THE ELEMENTARY TEACHER. F and S. Designed to famil-

iarize the prospective teacher with the speech arts used in the elementary classroom and to improve the prospective teacher's use of voice and articulation. *Mr. M. Vande Guchte.*

215 PRINCIPLES OF SPEECH CORRECTION. F and S. A study of the child's speech development and the types of speech defects that may occur. The course is designed to help the classroom teacher understand and correct minor defects and to handle speech improvement in the classroom. The course will also serve to introduce the student to the profession of speech pathology and audiology. *Mr. M. Vande Guchte.*

307 FUNDAMENTALS OF SPEECH SCIENCE. F even years. A study of the anatomy and physiology of the speech organs, the acoustic characteristics of speech production, speech sound formation, and phonetic transcription utilizing the International Phonetic Alphabet. Prerequisite: 215. Not offered 1969-70.

308 BASIC AUDIOLOGY AND AUDIOMETRY. S even years. A study of the fundamental aspects of hearing; the physics of sound, the anatomy of the ear, the nature of hearing and hearing impairment, and the testing of hearing. Prerequisite: 307, or permission of instructor. Not offered 1969-70.

ORAL INTERPRETATION AND DRAMA

203 INTERPRETATIVE READING. F and S, core. A study of the history, principles, and techniques of interpretation. Analysis and oral interpretation of prose and poetry. *Mr. Holquist, Mrs. Notebook.*

219 PRINCIPLES OF DRAMATIC PRODUCTIONS. F and S, core. A study of the theory and principles of drama as revealed in representative plays from the Greek through the modern period. With a view to training the prospective coach, attention will be given to the technical aspects of production. Students will be trained in acting and in directing by means of classroom presentations of dramatic scenes. *Mr. Holquist.*

220 THESPIAN PRODUCTIONS. Half course. Membership in the Thespian

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group is limited and is determined annually by tryout. The members will be given training in the various practical aspects of the production of drama. Students may participate more than one year. The activity runs throughout the school year. *Mrs. Boevé.*

304 **ADVANCED INTERPRETATION.** S, core. Continuation of 203. Application of its principles to the novel and drama. Intensive study in preparation for a reading program. Prerequisite: 203. *Mrs. Noteboom.*

317 **HISTORY OF THEATER AND DRAMA.** S even years, core. A historical and analytical study of theater and drama from its origins to 1800. Not offered 1969-70.

318 **HISTORY OF THEATER AND DRAMA.** F even years, core. A continuation of 317. An historical and analytical study of theater and drama from 1800 to the present. *Mrs. Boevé.*

390 **READINGS AND RESEARCH.** F, I, S. Prerequisite: permission of the chairman. *Staff.*

400 **SEMINAR.**

20 **SCENE DESIGN FOR THE THEATRE.** Levels II and III. A study of the history will include basic drafting principles, perspective drawing, and water color rendering. *Mr. Korf.*

40 **PARLIAMENTARY PROCEDURE IN ACTION.** Designed to provide the student with deeper insights and additional practice in the use of parliamentary law. Intensive practice will be provided for those with little or no knowledge of parliamentary procedure. The course will culminate in a mock legislative assembly. Required readings, discussions, plus guest lecturers and visits to legislative bodies. *Mr. Nykamp, Mr. Vande Guchte.*

41 **PROPAGANDA.** A study of propaganda as a type of persuasion which aims at masses of people in non-face-to-face situations (such as advertising, the Voice of America, Radio Free Europe, Radio Moscow). Discussion will largely center on how propaganda has been used in the recent past, especially from World War I to the present. *Mr. Ozinga.*

APPENDIX, *Curriculum before September, 1967*

STUDENTS ENROLLED at Calvin College prior to September, 1967, may graduate by meeting all the regulations in effect when they entered or by meeting all of the requirements of the new curriculum. A summary of the former regulations is given below. If course numbers are not consistent with new course numbers, courses equivalent to those identified with the former course number should be taken. Students with particular problems should consult their faculty adviser or the registrar.

The requirements for the Bachelor of Arts degree, general college course, apply to all four-year students who complete the following curricula: general college, pre-seminary, pre-medical, pre-dental, pre-law, pre-engineering, pre-business administration, and music major.

The student must complete 125 hours of work or the equivalent (under the 4-1-4 program a course is the equivalent of 3.5 semester hours) with a cumulative grade-point average of C (2.0). Honor points are computed on the basis of registered hours.

Of the 125 hours of course credit required for graduation, the following courses or their equivalent are prescribed: Religion and Theology 103, 206, 301 (9); English 103 and 104 (6); History 101 plus three hours (6); Philosophy, not including logic, (6); Mathematics 109, Physics 110, and Biology 111 (12); two years of one foreign language and one year of a second foreign language, one of which must be an ancient language and the other a modern language. (Students who have earned credit for foreign language in high school may have this credit applied toward the fulfillment of the college language requirement. For the purpose of evaluating high school credit in a foreign language, one year of foreign language in high school will be regarded as the equivalent of one semester in college. However, a foreign language taken in high school is not credited toward a major or a minor nor toward the 125 hours required for graduation.)

To insure proper distribution of the student's work, the subjects have been divided into three groups, as follows:

- GROUP I. Art, Dutch, English, French, German, Greek, Latin, music, Spanish, and speech.
- GROUP II. Biology, chemistry, geography, mathematics, physics, and psychology.
- GROUP III. Religion and theology, economics, education, history, philosophy, political science, psychology, and sociology.

The student must distribute the total 125 hours, including those that are prescribed, among the three groups, complying with the following restrictions:

At least twenty-four hours must be taken in one subject chosen from one of the above three groups. This constitutes a major. In addition, at least twelve hours must be selected in another subject in the same group from which the major subject is chosen. This constitutes the required minor in the major group. Finally, at least eighteen hours must be chosen from one of the other two groups, that is, other than the major group. At least twelve of these eighteen hours must be in one subject. This constitutes a second minor.

A maximum of eight semester hours of credit in applied courses will be allowed toward the bachelor's degree, except for music majors concentrating in applied music, in which case the maximum is sixteen hours.

Upon satisfactory completion of this course, the student will receive the degree of Bachelor of Arts. If he has met all the requirements of this course and has com-

pleted sixty or more hours in group II, he may elect to receive the degree of Bachelor of Science instead of Bachelor of Arts.

To be eligible for recommendation by Calvin College for a Michigan Provisional Teacher's Certificate, a student must complete all the requirements of the teacher-education program.

Students who wish to qualify for the Bachelor of Arts degree in Education must complete 125 hours, or the equivalent in courses under the course arrangement (one course is the equivalent of 3.5 hours), with a cumulative grade-point average of C (2.00). To be eligible for student teaching, he must attain a C average at the end of the school year preceding the year in which he plans to do his student teaching.

ELEMENTARY EDUCATION PROGRAM

General education degree requirements. Religion and Theology 103, 206, and 301; Biology 111; Physics 110, Mathematics 109; English 103 and 104; History 101 and 102, Psychology 201; Speech 109 or 303; four semesters of physical education; and fourteen hours of foreign language. (Students who have earned credit for a foreign language in high school may have this credit applied toward fulfillment of the college language requirement, if the same language is continued. However, a foreign language taken in high school is not credited toward a major or a minor nor toward the 125 hours required for graduation.)

Professional education courses. Education 202, 203, 204, 315, 322, and 343.

Additional prescribed courses. Art 201 or 306, Geography 103, Music 221 or 222, Psychology 204, and Sociology 203 or 204.

Major and minor sequences. A student is required to complete a major of thirty semester hours or equivalent in one area and eighteen semester hours in another. Recommended major and minor sequences include English Studies, Art and Music Studies, Social Studies, and Science Studies. Students should consult the 1966-67 college catalog (pp. 76 and 77) and Miss Gertrude Vander Ark for details of these programs.

SECONDARY EDUCATION PROGRAM

General education degree requirements. These are identical to the general education degree requirements of the elementary education program set forth above, except that a course in speech is not required.

Professional education courses. Education 202, 203, 204, 314, and 344.

Major and minor sequences. A student is required to complete a major of thirty hours and a minor of eighteen hours, these to be selected from the following subject matter areas: art, biology, chemistry, economics, English, French, geography, German, history, Latin, mathematics, music, physics, physical education, political science, sociology, Spanish, and speech.

Psychology may be selected as a minor, provided that sociology is not selected as a major or minor.

Prospective secondary school teachers, when selecting specific courses within their major and minor fields of concentration, should make their selections in consultation with the chairman of the departments involved and with the approval of Mr. Marion Snapper, chairman of the Department of Education.

Directed teaching must be taken at Calvin College to receive credit for graduation and to be recommended for a Michigan Provisional Teacher's Certificate. Upon completion of requirements for the B.A. in Education degree, a student must make application to the director of teacher certification.

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Johannes Broene, M.A., 1925-30
Rienk B. Kuiper, M.A., B.D., 1930-33
Ralph Stob, Ph.D., 1933-39
Johannes Broene, M.A., 1939-40
Henry Schultze, B.D., 1940-51

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Alfred John Reynolds, Ph.D., *Director pro tem of the Psychological Institute*
Bert P. Bos, Ed.D., *Director of Teacher Certification and Field Services*
Henry Jay Hoeks, M.C.E., *Director of Upward Bound, Director of Religious Education*
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Emery Blanke, *Assistant Director of Upward Bound*
Ernest Van Vugt, M.A., *Secretary of the Faculty*
Irwin Kroese, Ph.D., *Coordinator of Freshman Rhetoric*
Madge Strikwerda, M.A., *Administrative Coordinator of the Education Department*

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Lester Ippel, *Controller*
Sydney T. Youngsma, *Director of College Relations*
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Peter De Loof, *Chief Engineer*
A. Dean Van Bruggen, B.A., *Manager of the Bookstore*
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M. Howard Rienstra, Ph.D., *Dean of Students*
Linda Hertel Dykstra, *Dean of Women*
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Peter Vande Guchte, M.B.A., *Registrar*
Donald Lautenbach, M.A., *Coordinator of Admissions*
Donald L. Boender, M.A., *Coordinator of Financial Aid and Dean of Men*
Jene Kenneth Vredevoogd, B.A., *Assistant Coordinator of Financial Aid*
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Harvey Bratt, M.D., *College Physician*
Laurence H. Feenstra, M.D., *College Physician*
Harry Faber, *Security Officer*
Agnes Joldersma, *Resident Director, Beets-Veenstra Halls*
Gezina Kingma, B.A., *Resident Director, Noordewier-Vander Werp Halls*
Deane Koerner, *Resident Director, Franklin Dormitory*
Annette Medendorp, *Resident Director, Eldersveld-Schultze Halls*
Marie Spaan, *Resident Director, Rooks-Van Dellen Halls*
Violet Wiandt, *Resident Director, Bennink-Boer Halls*

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Athletics Committee, J. Tuls (chairman and faculty representative on the M.I.A.A. Board), J. Bratt, G. Harris, M. Karsten, J. Kuipers, L. Vander Lugt, and an advisory member designated by the chairman of the Department of Physical Education.
Communications Board, P. De Vos (Chimes), R. Jensen (Prism), T. Ozinga (WCAL), H. Ten Harmsel (Dialogue), and five students.
Coordinating Committee on Teacher Education, D. Hoekstra (chairman), M. Snapper (ex officio as chairman of the Department of Education), H. Bengelink, G. Besselsen, J. De Bie, W. Holkeboer, D. Topp.
Counseling and Guidance Committee, H. Broene (chairman), M. Berghuis, G. Huisman, C. Menninga, S. Monsma.

Discipline Committees:

Discipline Appeals Council, M. Berghuis (chairman), W. Hendricks, S. Leestma, L. Nyhoff; and three students.

All-campus Discipline Committee, Rienstra (secretary), P. Boonstra, W. De Boer, S. Greydanus, F. Roberts, B. Steen, D. Westra (A. Noteboom and J. Wiersma, alternates); five students plus two student alternates.

Residence Halls Appellate Council, T. Brouwer, H. Hoeks, R. Terborg (H. Bonzelaar and M. Zuidema, alternates); three students from residence hall judiciaries and two alternates. Council names its own chairman.

Residence Hall Judiciaries, one faculty member and six students from each residence unit. T. Brouwer, Franklin dormitory; H. Bonzelaar, Guild houses; A. Knoppers, Beets and Veenstra halls; K. Timmer, Eldersveld and Schultze halls; M. Zuidema, Boer and Bennink halls; R. Terborg, Noordewier and Vander Werp halls; H. Hoeks, Rooks and Van Dellen halls.

Educational Policy Committee, J. Vanden Berg (chairman), P. De Boer, J. De Borst, R. Griffioen, K. Kuiper, C. Orlebeke, J. Primus.

Examinations Committee, A. Reynolds (chairman), J. Vanden Berg, M. Berghuis, D. Entingh, J. Hamersma, A. Plantinga, D. Van Kley.

Faculty Evaluation Committee, N. Beversluis, R. Bosscher, J. Lamse, B. Ten Broek, plus four students. The committee shall name a student chairman and a faculty secretary.

Faculty Seminar Committee, T. Ozinga (chairman), A. Kromminga, G. Marsden, P. Marsman, S. Monsma.

Faculty Social and Special Academic Activities Committee, M. Vande Guchte (chairman), J. Korf, I. Kroese, D. Nykamp, C. Overvoorde, G. Slingerland, C. Stapert, H. Van Till, J. Van Zytveld, C. Walhout, D. Wilson, D. Zuidema.

Film Arts Council, H. Hook, H. Slenk, M. Walters, plus four students, one of whom is chairman.

Honors Program Committee, D. Tiemersma (chairman), D. Hoekstra, D. Holwerda, K. Konyndyk, R. Otten, T. Rottman.

Interim Committee, A. Otten (chairman), D. Hoekstra, H. Hook, D. Jellema, H. Rienstra, P. Vande Guchte (adviser), S. Wiersma.

Lecture Council, G. Marsden, E. Van Kley (S. Van Der Weele, alternate), and three students.

Library Committee, L. Sweetman (chairman), C. Boersma, B. De Vries, C. Hegewald, W. Lagerwey, M. Monsma (adviser).

Preseminary Students Advisory Committee, B. Bos (chairman), B. Pekelder, T. Prins, L. Vos, R. Youngs.

Scholarship Committee, W. Bratt (chairman), D. Boender (secretary), C. Miller (when graduate fellowships are involved), M. Berghuis, A. Bratt, J. Daling, T. Dirkse, J. Smit.

Student Religious Activities Committee, T. Minnema (chairman), B. Pekelder, M. Berghuis, J. Beebe, K. Piers, B. Siebring, C. Van Opynen, plus four students.

Student Social Activities Committee, R. Bolt (chairman), M. Berghuis, D. Holquist, G. Monsma, B. Pekelder, H. Rienstra, plus seven students.

CONTINUING AD HOC STUDY COMMITTEES

Curriculum Study Committee, N. Wolterstorff (chairman), *G. Harper, C. Miller, G. Spykman, *G. Van Harn, the Dean of the College, and the President. This committee will continue to function, during the period of transition to the 4-1-4 curriculum, as an advisory committee on questions arising out of the introduction of the new curriculum.

Discipline Code Study Committee, H. Rienstra (chairman), R. Mouw, E. Van Vugt, two members of the Board of Trustees, two students.

Faculty Organization Study Committee, V. Ehlers (chairman), C. Miller, C. Sinke, E. Strikwerda, J. Westra, the Dean of the College, and the President.

Graduate Study Committee, N. Wolterstorff, P. Zwier, two members from the seminary faculty, one member from the Board of Trustees, the President of the College, the President of the Seminary.

Probation and Retention Study Committee, M. Berghuis (chairman), A. Gebben, E. Van Vugt.

Professional Programs Study Committee, M. Snapper (chairman), **Ed. Boevé (C. Huisman, alternate), J. Bosscher, A. Gebben, B. Kreuzer, M. Monsma, D. Pruis, G. Van Zwalenberg. R. Bijkerk to present the report.

DEPARTMENTAL AND DIVISIONAL ORGANIZATION

The various departments are related as divisions: Division I, education, physical education, philosophy, and religion and theology (N. Wolterstorff, *chairman*); Division II, language, literature, and the arts (S. Van Der Weele, *chairman*); Division III, the natural sciences and mathematics (C. Sinke, *chairman*); Division IV, the social sciences (E. Strikwerda, *chairman*).

- Art (II), Edgar Boevé, *acting chairman*
- Biology (III), Bernard Ten Broek, *chairman*
- Chemistry (III), Enno Wolthuis, *chairman*
- Classical Languages (II), Robert T. Otten, *chairman*
- Economics (IV), Tony Brouwer, *chairman*
- Education (I), Marion Snapper, *chairman*
- Engineering (III), James Bosscher, *chairman*
- English (II), Steve Van Der Weele, *chairman, pro tem*
- Romance Languages (II), Arthur Otten, *chairman*
- Germanic Languages (II), Wallace Bratt, *acting chairman*
- History (IV), Earl Strikwerda, *chairman, pro tem*
- Mathematics (III), Carl Sinke, *chairman*
- Music (II), John Hamersma, *chairman*
- Philosophy (I), Nicholas Wolterstorff, *chairman*
- Physical Education (I), Barney Steen, *chairman*
- Physics (III), Roger Griffioen, *chairman*
- Psychology (IV), John Daling, *chairman, pro tem*
- Religion and Theology (I), John Bratt, *chairman*
- Sociology (IV), Theodore Rottman, *chairman*
- Speech (II), Melvin Berghuis, *chairman*

Faculty

Faculty members on leave of absence for the 1969-70 academic year are indicated by an asterisk (*), those on leave for the first semester are indicated by a dagger (†), and those on leave the second semester are indicated by double asterisks (**).

EMERITI

- Josephine Baker, M.A., M.A.L.S.
Librarian, Emeritus
- Harry G. Dekker, M.S.
Registrar, Emeritus
Professor of Chemistry, Emeritus
- Richard Drost, M.A., Ph.D.
Professor of History, Emeritus
- William Harry Jellema, M.A., Ph.D.
Professor of Philosophy, Emeritus
- Edwin Y. Monsma, M.S., Ph.D.
Professor of Biology, Emeritus
- Albert H. Muyskens, M.A.
Professor of Mathematics, Emeritus
- Henry J. Rykamp, M.A., Ph.D.
Dean of the College, Emeritus
Professor of Economics and Sociology, Emeritus
- Seymour Swets, M.A.
Professor of Music, Emeritus
- John Andrew Van Bruggen, M.A., Ph.D.
Professor of Education, Emeritus
- Jacob G. Vanden Bosch, M.A.
Professor of English Language and Literature, Emeritus
- Helen Van Laar, M.A.
Assistant Professor of Education, Emeritus
- Henry Van Zyl, M.A., Ph.D.
Professor of Educational Methods, Emeritus
- Harry J. Wassink, B.S.
Professor of Engineering, Emeritus
- John Weidenaar, Th.M.
Associate Professor of Religion and Theology, Emeritus
-
- Henry James Baron, M.A. (Michigan, 1966), Adv. Cer. (Illinois, 1968)
Visiting Instructor in English
- John D. Beebe, M.A. (South Dakota, 1966), Ph.D. (Chicago, 1969)
Assistant Professor of Biology
- Henry Bengelink, M.S. (Michigan, 1940)
Assistant Professor of Biology
- Melvin Earl Berghuis, M.A. (Michigan, 1949), Ph.D. (Michigan State, 1964)
Vice President for Student Affairs
Chairman of the Department of Speech
- Gilbert Besselsen, M.A., Ph.D. (Michigan, 1963, 1969)
Assistant Professor of Education
- Nicholas Henry Beversluis, Th.B. (Calvin Theological Seminary, 1943) Th.M. (Westminster Theological Seminary, 1944), M.A. (Columbia, 1950), Ed.D. (Columbia—Teachers College, 1966)
Professor of Education

- †Roelof Jan Bijkerk, Dr. Phil. (Vrije Universiteit, Amsterdam, 1962)
Professor of Psychology
Chairman of the Department of Psychology
Director of the Psychological Institute
- Kathryn Blok, M.A. (Michigan State, 1967)
Visiting Instructor in Education
- Clarence Boersma, M.A., German, M.A., French, Ph.D. (Michigan, 1940, 1945, 1949)
Professor of Germanic Languages
- **Edgar Gene Boevé, J. Franklin School of Professional Arts, M.S.D. (Michigan, 1954)
Associate Professor of Art
Acting Chairman of the Department of Art
- **Ervin Boevé, M.A. (Michigan, 1954)
Director of Drama
- Robert Bolt, M.A. (Michigan, 1953), Ph.D. (Michigan State, 1963)
Associate Professor of History
- Helen Bonzelaar, M.A. (Western Michigan, 1964)
Instructor in Art
- Paul H. Boonstra, M.A. (Michigan, 1958), M.S. (Purdue, 1963)
Associate Professor of Mathematics
- Bert Peter Bos, M.A., Ed.D. (New York University—School of Education, 1931, 1937)
Director of Teacher Certification and Field Services
- Nell Bosma, M.S., Ph.D. (Michigan, 1927, 1931)
Professional Staff, Department of Biology
- James Peter Bosscher, M.S. (Purdue, 1957), Ph.D. (Michigan, 1968)
Professor of Engineering
Chairman of the Department of Engineering
- Robert Allen Bosscher, M.A. (Michigan, 1962)
Assistant Professor of Economics
- Al Dirk Bratt, M.S. (Michigan State, 1957), Ph.D. (Cornell, 1964)
Associate Professor of Biology
- John Harold Bratt, Th.B. (Calvin Theological Seminary, 1937), Th.M. (Columbia Seminary, Ga., 1938), S.T.M. (Harvard Divinity School, 1939), Th.D. (Union Seminary, Va., 1955)
Professor of Religion and Theology
Chairman of the Department of Religion and Theology
- Wallace Henry Bratt, M.A., Ph.D. (Michigan, 1956, 1966)
Associate Professor of Germanic Languages
Acting Chairman of the Department of Germanic Languages
- *Herbert John Brinks, M.A., Ph.D. (Michigan, 1961, 1965)
Associate Professor of History
Curator, Colonial Origins Collection
- Herman Henry Broene, Ph.D. (Purdue, 1947)
Professor of Chemistry
- Tony Brouwer, M.A., Ph.D. (Michigan, 1947, 1957)
Professor of Economics
Chairman of the Department of Economics
- Conrad John Bult, M.A., M.A.L.S. (Michigan, 1962, 1965)
Librarian
- Elsa Cortina, Doctora en Pedagogia (Universidad Habana, 1951)
Visiting Lecturer in Romance Languages
- John Thomas Daling, M.A., Ph.D. (Michigan, 1937, 1943)
Professor of Psychology
Chairman pro tem, Department of Psychology

- John Lester De Beer, M.A., Ed.D. (Columbia—Teachers College, 1936, 1951)
Professor of Education
- John De Bie, M.A. (Iowa, 1935)
Assistant Professor of History
- Peter Pousma De Boer, M.A., Social Studies (New Jersey State, 1952), M.A., English-American Civilization (Iowa, 1961), Ph.D. (Chicago, 1968)
Professor of Education
- Willis Peter De Boer, Th.B. (Calvin Theological Seminary, 1951), Dr. Th. (Vrije Universiteit, Amsterdam, 1962)
Associate Professor of Religion and Theology
- James Henry De Borst, M.A. (Michigan, 1965)
Assistant Professor of Political Science
- Peter Y. De Jong, M.A. (Western Michigan, 1969)
Visiting Instructor in Sociology
- James John De Jonge, M.S., M.Mus. (Michigan, 1935, 1940)
Associate Professor of Music
- Peter Allen De Vos, M.A. (Brown, 1964)
Assistant Professor of Philosophy
- Bert De Vries, B.D. (Calvin Theological Seminary, 1964), M.A., Ph.D. (Brandeis, 1965, 1967)
Assistant Professor of History
- †Robert Lee De Vries, M.A. (Michigan, 1964)
Instructor in Political Science
- Henry De Wit, M.B.A., (C.P.A.) (Michigan, 1948)
Vice President for Business and Finance
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Professor of Chemistry
- Vernon James Ehlers, Ph.D. (California, Berkeley, 1960)
Professor of Physics
- Daniel James Entingh, Ph.D. (Chicago, 1969)
Assistant Professor of Psychology
- Thressa Entingh, Ph. D. (Chicago, 1969)
Lecturer in Biology
- Eltjen John Flikkema, M.A. (Michigan State, 1968)
Assistant Instructor in Germanic Languages
- Bernard Jay Fridsma, Sr., M.A., Ph.D. (Michigan, 1939, 1956)
Professor of Germanic Languages
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Professor of Biology
- *Harold Paul Geerdes, M.Ed. (Chicago Teachers, 1940)
Associate Professor of Music
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Assistant Professor of History
- Roger Duane Griffioen, Ph.D. (Purdue, 1960)
Professor of Physics
Chairman of the Department of Physics
- John Edward Hamersma, S.M.M., S.M.D. (Union Theological Seminary, New York, 1952, 1961)
Professor of Music
Chairman of the Department of Music
College Organist
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Professor of English
Chairman of the Department of English

- George Harris, M.A. (Michigan, 1959)
Associate Professor of Classical Languages
- Cornelius Peter Hegewald, M.A., D.A.G. (Michigan State, 1964, 1967)
Assistant Professor of Germanic Languages
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Visiting Instructor in History
- William Cornelius Hendricks, M.Ed. (Western Washington State, 1955)
Assistant Professor of Education
- James A. Heynen, M.A. (Iowa, 1965)
Instructor in English
- Henry Jay Hoeks, B.S.A.E. (Purdue, 1958), M.C.E. (Western Theological Seminary, 1966)
Assistant Professor of Education
Director of Religious Education
Director of Upward Bound
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Teachers College, 1963)
Assistant Dean for Academic Affairs
- Winifred H. Holkeboer, M.A. (Iowa Northern University, 1959)
Assistant Professor of English
- David Jack Holquist, M.A., (Michigan, 1967)
Instructor in Speech
- Henry Holstege, Jr., M.A., Ph.D. (Michigan State, 1958, 1966)
Professor of Sociology
- David Earl Holwerda, B.D. (Calvin Theological Seminary, 1956), Dr.Th.
(Vrije Universiteit, Amsterdam, 1959)
Professor of Religion and Theology
- Ralph John Honderd, M.A. (Michigan State, 1966)
Instructor in Physical Education
- Harmon D. Hook, M.A., Ph.D. (California, Berkeley, 1964, 1969)
Assistant Professor of English
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Instructor in Art
- Gertrude A. Huisman, M.A. (Ohio State, 1963)
Assistant Professor of Music
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Professor of History
Chairman of Department of History and Political Science
- Dirk William Jellema, Ph.D. (Wisconsin, 1951)
Professor of History
- Robert Andrew Jensen, M.F.A. (Ohio, 1952)
Assistant Professor of Art
- Martin Karsten, M.S. (Michigan, 1942)
Associate Professor of Biology
- *Beverly Jane Klooster, M.S. (Michigan State, 1961)
Assistant Professor of Biology
- Thelma Knol, M.Mus. (Michigan, 1959)
Professional Staff, Department of Music
- Annelies Knoppers, M.A. (Texas Woman's, 1968)
Instructor in Physical Education
- Kenneth J. Konyndyk, Jr., M.A., Ph.D. (Wayne State, 1967, 1969)
Assistant Professor of Philosophy
- James Dale Korf, B.A. (Hope, 1964)
Assistant in Speech

- Bernard Benjamin Kreuzer, M.A., Ph.D. (Michigan, 1959, 1969)
Associate Professor of Germanic Languages
- Irvin Bertus Kroese, M.A., Ph.D. (Ohio, 1964, 1966)
Assistant Professor of English
Coordinator of Freshman Rhetoric
- Albion Jerome Kromminga, Ph.D. (Minnesota, 1961)
Professor of Physics
- Kenneth Wayne Kuiper, M.A., Educ., M.A., English, Ed.D. (Michigan, 1955, 1959, 1963)
Professor of English
- Jack Kuipers, M.S.E., Info. and Cont. E. (Michigan, 1959, 1966)
Associate Professor of Mathematics
- Walter Lagerwey, M.A. (Columbia, 1951), Ph.D. (Michigan, 1958)
Professor of Germanic Languages
- Stephen Lambert Lambers, M.A., M.A.L.S. (Michigan, 1958, 1969)
Index Librarian
- James Lawrence Lamse, M.A. (Michigan, 1963)
Instructor in Germanic Languages
- Sanford Clay Leestma, M.A., Ph.D. (Pennsylvania State, 1965, New Mexico State, 1969)
Assistant Professor of Mathematics
- Ronald J. Lubbers, M.B.A. (Michigan State, 1969)
Assistant Instructor in Economics
- *Philip Roger Lucasse, M.A. (Michigan, 1952)
Deferred appointment, Department of Education
- George Mish Marsden, B.D. (Westminster Theological Seminary, 1963) M.A., Ph.D. Yale, 1960, 1965)
Associate Professor of History
- Pieter H. Marsman, M.A. (Carleton, 1969)
Instructor in Romance Languages
- Norman Matheis, M.F.A. (Michigan, 1967)
Instructor in Art
- Clarence Menninga, M.A. (Western Michigan, 1959), Ph.D. (Purdue, 1966)
Assistant Professor of Physics
- Charles J. Miller, Ph.D. (Northwestern, 1947)
Professor of History
Coordinator of Graduate Fellowships
- Theodore Minnema, B.D. (Calvin Theological Seminary, 1953), Dr.Th. (Vrije Universiteit, Amsterdam, 1958)
Professor of Religion and Theology
- George Norman Monsma, M.A., Ph.D. (Princeton, 1965, 1969)
Assistant Professor of Economics
- Marvin Eugene Monsma, M.Ed. (Michigan State, 1961), M.A.L.S. (Michigan, 1967)
Assistant Director of the Libraries
- Stephen Vos Monsma, M.A. (Georgetown, 1961), Ph.D. (Michigan State, 1965)
Associate Professor of Political Science
- Richard John Mouw, M.A. (Alberta, 1965)
Instructor in Philosophy
- Ann Janssen Noteboom, M.A., Ph.D. (Northwestern, 1952, 1957)
Professor of Speech
- Larry Ray Nyhoff, M.S. (Michigan, 1961), Ph.D. (Michigan State, 1969)
Assistant Professor of Mathematics
- Delwin Gene Nykamp, M.A. (Northwestern, 1967)
Instructor in Speech

- **Donald Oppewal, M.A.** (Michigan, 1951), Ph.D. (Illinois, 1961)
Professor of Education
- Peter Oppewal, M.A., Ph.D.** (Michigan, 1949, 1961)
Professor of English
- Clifton James Orlebeke, B.S.E., M.A.** (Michigan, 1947, 1950), Ph.D. (Harvard, 1963)
Professor of Philosophy
- Arthur James Otten, M.A., D. de l'U.** (Laval, 1952, 1969)
Professor of Romance Languages
Chairman of the Department of Romance Languages
- Robert Theodore Otten, M.A., Ph.D.** (Michigan, 1951, 1957)
Professor of Classical Languages
Chairman of the Department of Classical Languages
- Chris Stoffel Overvoorde, M.F.A.** (Michigan, 1966)
Instructor in Art
- Thomas J. Ozinga, M.A., Ph.D.** (Michigan 1961, 1967)
Associate Professor of Speech
- Bernard Edward Pekelder, Th.B.** (Calvin Theological Seminary, 1947), M.A. (Northwestern, 1965)
College Chaplain
- Kenneth Piers, B.Sc. (Hon.), Ph.D.** (Alberta, 1963, 1966)
Visiting Assistant Professor of Chemistry
- Alvin Carl Plantinga, M.A.** (Michigan, 1955), Ph.D. (Yale, 1958)
Professor of Philosophy
- Cornelius A. Plantinga, M.A.** (Michigan, 1933), M.Ed., Ph.D. (Duke, 1942, 1940)
Professor of Psychology
- John Henry Primus, B.D.** (Calvin Theological Seminary, 1957), Dr.Th. (Vrije Universiteit, Amsterdam, 1960)
Associate Professor of Religion and Theology
- Tunis Prins, M.A.** (Michigan, 1937), Ph.D. (Southern California, 1938)
Professor of Philosophy
- Donald Eugene Pruis, M.B.A., Ph.D. (C.P.A.),** (Michigan, 1953, 1969)
Professor of Economics and Business Administration
- William Thomas Radius, M.A.** (Chicago, 1929), Ph.D. (Michigan, 1943)
Professor of Classical Languages
- Alfred John Reynolds, M.A.** (Michigan, 1951), Ph.D. (Michigan State, 1965)
Associate Professor of Psychology
Director pro tem of the Psychological Institute
Consultant, Educational and Psychological Measurements
- *Rodger Reid Rice, M.A., Ph.D.** (Michigan State, 1962, 1968)
Assistant Professor of Sociology
- M. Howard Rienstra, M.A., Ph.D.** (Michigan, 1954, 1963)
Professor of History
Dean of Students
- Frank Carl Roberts, B.D.** (Calvin Theological Seminary, 1965) M.A., (Vanderbilt, 1969)
Instructor in History
- Theodore Allen Rottman, M.A., Ph.D.** (Michigan State, 1955, 1965)
Professor of Sociology
Chairman of the Department of Sociology
- **H. Evan Runner, Th.B., Th.M.** (Westminster Theological Seminary, 1939, 1946)
Dr.Phil. (Vrije Universiteit, Amsterdam, 1951)
Professor of Philosophy
- Ruth Rus, M.Mus.** (Eastman School of Music, 1951)
Professional Staff, Department of Music

- Barton G. Siebring, M.A. (Instituto Tecnológico Y De Estudios Superiores, Monterrey, 1967)
Assistant Professor of Romance Languages
- Carl James Sinke, M.S., Ph.D. (Purdue, 1951, 1954)
Professor of Mathematics
Chairman of the Department of Mathematics
- Howard Jay Slenk, M.A., Ph.D. (Ohio State, 1961, 1965)
Associate Professor of Music
- Gertrude Slingerland, M.A. (Michigan, 1939)
Assistant Professor of English
- Barbara Betty Sluiter, M.A.L.S. (Michigan, 1956)
Librarian
- *Lewis Benedict Smedes, Th.B. (Calvin Theological Seminary, 1950), Dr.Th. (Vrije Universiteit, Amsterdam, 1954)
Professor of Religion and Theology
- J. William Smit, M.A., Ph.D. (Michigan, 1959, 1964)
Associate Professor of Sociology
- J. Marion Snapper, M.Ed. (Western Washington, 1954), Ed.D. (California, Berkeley, 1958)
Professor of Education
Chairman of the Department of Education
Coordinator of Secondary Teacher Education
- William Spoelhof, M.A., Ph.D. (Michigan, 1937, 1946)
President
- Ronald Jay Spoelman, M.A. (Michigan, 1966)
Visiting Instructor in Germanic Languages
- Gordon John Spykman, Th.B. (Calvin Theological Seminary, 1952), Dr.Th. (Vrije Universiteit, Amsterdam, 1955)
Professor of Religion and Theology
- Calvin Stapert, M.A. (Chicago, 1968)
Instructor in Music
- Barney Steen, M.A., Ed.D. (Columbia—Teachers College 1947, 1958)
Professor of Physical Education
Chairman of the Department of Physical Education
- Earl Strikwerda, M.A., Ph.D. (Colorado, 1938, 1942)
Professor of History
Chairman pro tem, Department of History and Political Science
- Leonard Sweetman, Jr., Th.B. (Calvin Theological Seminary, 1951),
Associate Professor of Religion and Theology
- Thomas Lee Swets, M.A. (Wisconsin, 1968)
Assistant Instructor in English
- José Antonio Tagle, B.A., Instituto Pre-Universitario de la Habana
Assistant in Romance Languages
- Bernard John Ten Broek, M.A., Ph.D. (Colorado, 1955, 1960)
Professor of Biology
Chairman of the Department of Biology
- Henrietta Ten Harmsel, M.A., Ph.D. (Michigan, 1958, 1962)
Professor of English
- Robert Harold Terborg, M.A., Ph.D. (Michigan State, 1966, 1968)
Assistant Professor of Psychology
- Richard Robert Tiemersma, M.A., Ph.D. (Northwestern 1950, 1962)
Professor of English
- Karen Lou Timmer, M.S. (Springfield, 1966)
Instructor in Physical Education

- John Johnson Timmerman, M.A. (Michigan, 1932), Ph.D. (Northwestern, 1948)
Professor of English
- Gordon Dale Topp, M.Mus., Ph.D. (Michigan, 1960, 1967)
Assistant Professor of Music
- John Henry Tuls, M.A. (Michigan, 1945)
Associate Professor of Mathematics
- David Bruce Tuuk, M.A. (Michigan, 1950)
Assistant Professor of Physical Education
- Marten Vande Guchte, M.Ed. (Wayne State, 1954)
Associate Professor of Speech
- Peter Vande Guchte, M.B.A. (Michigan, 1960)
Registrar
- John Vanden Berg, M.A., Ph.D. (Michigan, 1947, 1958)
Vice President for Academic Affairs and Dean of the College
- Gertrude Vander Ark, M.A., Ed.S. (Michigan, 1953, 1964)
Assistant Professor of Education
Coordinator of Elementary Teacher Education
- Jenniete T. Vander Berg, M.A. (Michigan State, 1966)
Assistant Instructor in Physical Education
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Assistant Instructor in Physics
- Leonard Adolph Vander Lugt, M.S. (Michigan State, 1960)
Assistant Professor of Chemistry
- †Ray Vander Weele, M.B.A. (Northwestern, 1961), Ph.D. (Wisconsin, 1969)
Assistant Professor of Economics
- Steve John Van Der Weele, M.S., Ph.D. (Wisconsin, 1950, 1955)
Professor of English
Chairman pro tem, Department of English
- Léonard Van der Wekken, M.A. (California, L.A., 1969)
Instructor in Romance Languages
- William Van Doorne, M.S., Ph.D. (Michigan, 1962, 1965)
Assistant Professor of Chemistry
- *Gordon Lee Van Harn, M.S., Ph.D. (Illinois, 1959, 1961)
Professor of Biology
- Dale Kenneth Van Kley, M.A., Ph.D. (Yale, 1964, 1969)
Assistant Professor of History
- **Edwin John Van Kley, M.A., Ph.D. (Chicago, 1959, 1964)
Professor of History
- *Myrtle June Van Laar, M.A., M.A.L.S. (Michigan, 1958, 1965)
Librarian
- Catherine Wilhelmina Van Opynen, M.A. (Columbia—Teachers College, 1945),
M.Ed. (Michigan, 1957)
Assistant Professor of Psychology
- Lambert John Van Poolen, M.S.M.E., Ph.D. (Illinois Institute of Technology, 1965,
1969)
Assistant Professor of Engineering
- Howard Jay Van Till, Ph.D. (Michigan State, 1965)
Associate Professor of Physics
- Ernest Van Vugt, M.A. (Michigan, 1958)
Assistant Professor of Classical Languages
Secretary of the Faculty
- George Van Zwalenberg, M.A. (Florida, 1955), Ph.D. (California, Berkeley, 1968)
Professor of Mathematics
- John Bos Van Zytveld, M.S., Ph.D. (Michigan State, 1964, 1967)
Assistant Professor of Physics

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Librarian

Ronald Albert Wells, M.A., Ph.D. (Boston, 1964, 1967)

Visiting Assistant Professor of History

Dorothy Westra, M.A. (Chicago, 1952)

Assistant Professor of Education

Johan Gerard Westra, M.A. (Michigan, 1953)

Associate Professor of Political Science

Lois Ann Westra, M.A. (Wisconsin, 1964)

Assistant Professor of Romance Languages

Richard Franklin Wevers, M.A., Ph.D. (Wisconsin, 1959, 1962)

Professor of Classical Languages

Jack Wiersma, M.S. (Seattle, 1967), Ph.D. (Iowa, 1968)

Assistant Professor of Education

Stanley Marvin Wiersma, M.S., Ph.D. (Wisconsin, 1959, 1961)

Professor of English

Donald Reid Wilson, B.D. (Faith Theological Seminary, 1956), M.A. (Chicago, 1962)

Associate Professor of Sociology

Nicholas Paul Wolterstorff, M.A., Ph.D. (Harvard University, 1954, 1956)

Professor of Philosophy

Chairman of the Department of Philosophy

Enno Wolthuis, M.S. (Michigan, 1933), Ph.D. (Illinois, 1937)

Professor of Chemistry

Chairman of the Department of Chemistry

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Assistant Professor of Music

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Professor of Psychology

Doris Jean Zuidema, M.A. (Columbia—Teachers College, 1963)

Assistant Professor of Physical Education

Marvin Albert Zuidema, M.A. (Michigan State, 1959)

Assistant Professor of Physical Education

Paul John Zwier, M.A. (Michigan, 1951), Ph.D. (Purdue, 1960)

Professor of Mathematics

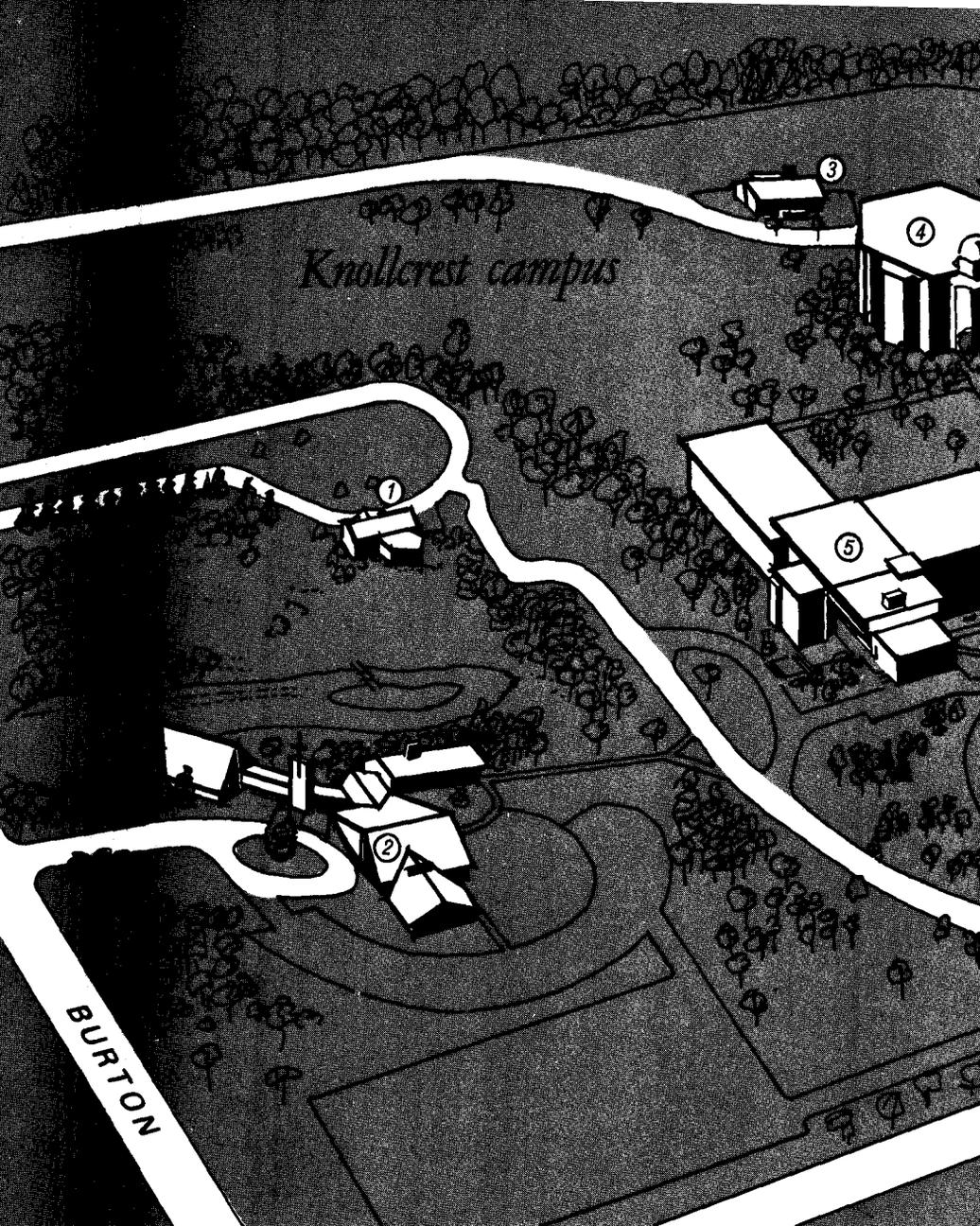
Mildred Reitsema Zylstra, M.A.L.S. (Michigan, 1959)

Assistant Professor of English

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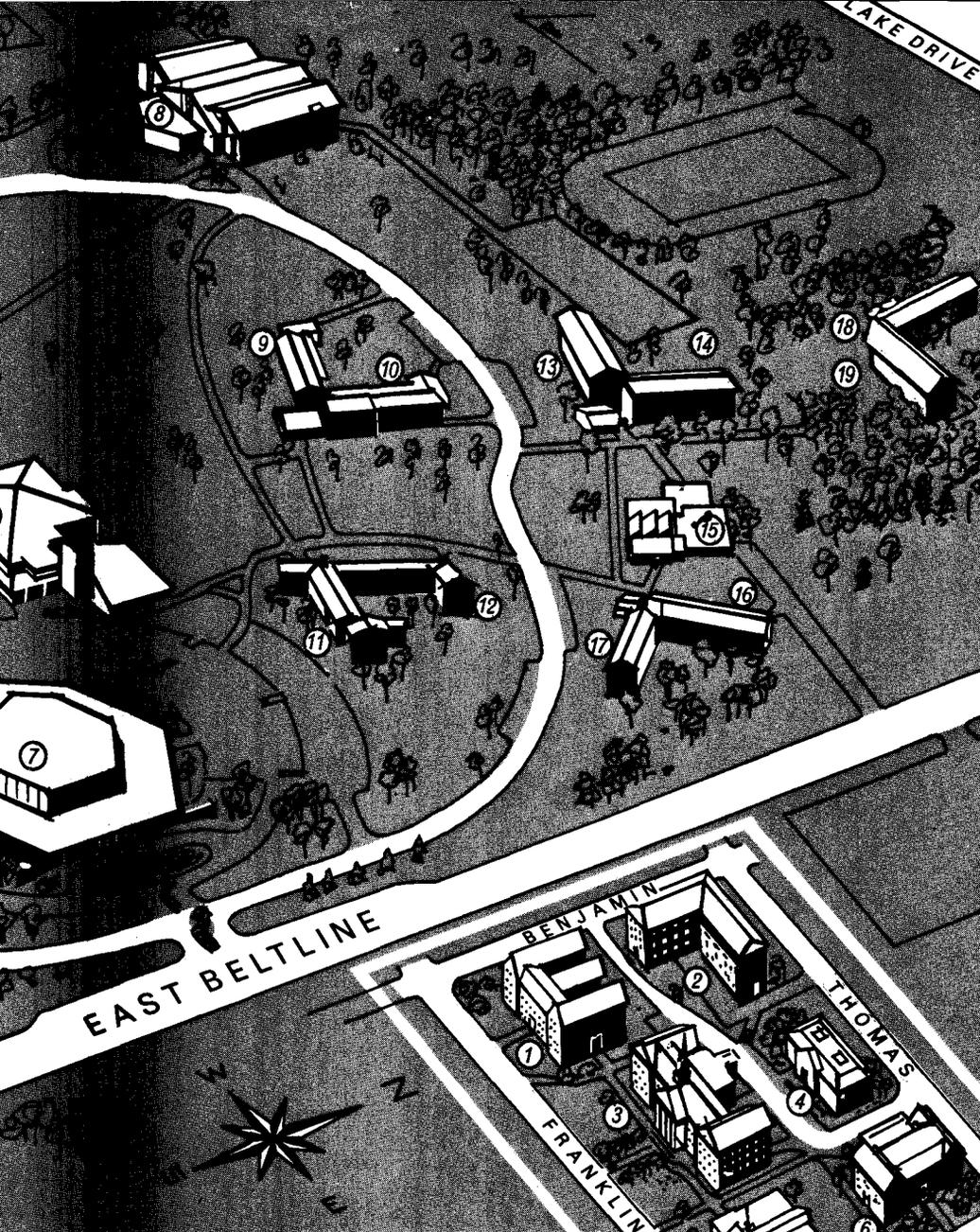
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KNOLLCREST CAMPUS

1. Manor House
2. Calvin Theological Seminary
3. Science Service Building
4. Science Building
5. Libraries (Heritage and Hiemenga Halls)

6. Commons
7. Fine Arts Building
8. Physical Education Building
9. Rooks Hall
10. Van Dellen Hall
11. Schultze Hall
12. Eldersveld Hall



- 13. Noordewier Hall
- 14. Vanderwerp Hall
- 15. Dining Hall
- 16. Veenstra Hall
- 17. Beets Hall
- 18. Bennink Hall
- 19. Boer Hall

Franklin campus

- 1. Hekman-Building
- 2. Science Building
- 3. Administration Building
- 4. Commons
- 5. Library
- 6. Dormitory

