# Graduate Catalog, 1964-1965 \& 1965-1966 

Valparaiso University

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# Valparaiso UNIVERSITY BULLETIN 



MASTER OF ARTS
IN
LIBERAL STUDIES

Announcements for the Sessions OF 1964-1965 and 1965-1966

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## PROGRAM FOR THE

 MASTER OF ARTSIN LIBERAL STUDIES

## ADMINISTRATION

President. . . . . . . Otto Paul Kretzmann, S.T.M., Litt.D., D.D., LL.D., L.H.D. Vice-President For Business<br>and Finance . . . . . . . . . . . . . . . . . . . . . . Albert Frank Scribner, M.A., LL.D. Vice-President for Academic Affairs. . . . . . . . . . . . . Albert G. Huegli, Ph.D. Dean of the College of Arts and Sciences. . . . . . . . . . Allen E. Tuttle, Ph.D. Director of Summer and Evening Sessions. . . Alfred C. Koester, M.A. in Ed. Director of Graduate<br>Studies<br>J. Conrad Seegers, Ph.D., Litt.D., LL.D., L.H.D.<br>Registrar. Paul E. Thune, B.A.

## PROGRAM FOR THE MASTER OF ARTS IN LIBERAL STUDIES

The program of graduate studies, leading to the degree Master of Arts in Liberal Studies, was initiated by Valparaiso University in the summer session of 1963. It was continued through late afternoon and evening courses during the subsequent academic year. At present the plan is to offer graduate courses in this pattern of summer sessions and evening courses.

The University began to study the development of the graduate program in 1956. In presenting graduate courses it is seeking to fulfill an objective set by the Lutheran University Association when it acquired the plant in 1925: to make the institution a Christian center of advanced study. The University also desires through this program to broaden its educational service to the constituency in its area. There are elements of uniqueness in the program, both in breadth and depth, which make it unusual in American higher education.

## NATURE OF THE PROGRAM

The graduate degree offered is the Master of Arts in Liberal Studies. The program leading to this degree is broad in scope, offering opportunities for study in several fields, with a limited concentration required in two areas. Two basic two-hour courses in The Western Tradition, which are required of all students, provide an integrating core. The student is then required to present sixteen hours of work distributed according to his election between two subject fields other than education. The remaining ten of the thirty hours required are free electives. All of them may be in professional education.

The program provides for the needs of both elementary and secondary classroom teachers who wish to work toward advanced certificates. They will be able to adjust their programs within the fields of concentration and the electives so as to strengthen their subject matter competence and, if they desire, to add to their professional training in education.

It also provides a particularly challenging opportunity for pastors and other professional workers in the church who wish to strengthen their preparation and secure breadth of background in academic areas.

As the program evolved, frequent conferences were held with the Indiana State Department of Public Instruction in an effort to assure its meeting the
requirements of classroom teachers, both elementary and secondary, who wish to qualify for the Professional Certificate. It has now been formally approved by the Indiana State Department of Public Instruction. It has also been approved and accredited by the North Central Association of Colleges and Secondary Schools.

It is expected that the program will meet the requirements for certification in most other states.

## ADMINISTRATION

The graduate program is under the general supervision of the President and the Faculty. Policies are determined by the Graduate Council. The Director of Graduate Studies administers the program. He is advised by the Graduate Council and carries out the regulations which it enacts.

The Director assigns an adviser to every student admitted to the graduate program.

Students who are working toward qualifying for teaching certificates will be assigned an adviser in the Department of Education. If necessary, they will be assigned an additional academic adviser.

## ACADEMIC REQUIREMENTS

## Admission

Applicants must be graduates of accredited colleges or universities, with a standing of at least $1.5(\mathrm{C}=1.00)$ in all work attempted. A transcript of undergraduate work and a completed form for admission must be presented to the Graduate Council for evaluation.

To become a candidate for a degree, the student must have completed at least six semester hours in residence, with a standing of at least 1.8 $(B=2.00)$. The candidate must file a letter of intent and a tentative program of study. Admission to candidacy is a separate step from admission to the graduate program, and requires separate approval by the Graduate Council.

## Requirements For The Degree

To be eligible for the master's degree students must complete at least thirty semester hours, distributed as follows:

1. 16 semester hours, distributed as the student chooses, between two subject-matter fields other than education. The sixteen semester hours may be evenly divided between the fields or all but two hours may be taken in a single field.
2. 4 semester hours in the course entitled The Western Tradition I and The Western Tradition II.
3. 10 semester hours in education or electives.
4. At least eight of the sixteen semester hours required in the two subject-matter fields and at least fifteen of the thirty semester hours presented for the degree must be in courses open only to graduate students (number 300 or higher). These must be taken at Valparaiso University.
Students must maintain a grade point average of $1.8(B=2.00)$ in all
work undertaken at Valparaiso University for the master's degree. Graduate credit may be received for A, B, and C grades, but not more than six semester hours of C work may be counted toward the degree.

If a student receives a grade of Incomplete in any course that grade must be removed before the end of the next succeeding semester or it will automatically become an F .

Only in exceptional cases, such as prolonged or serious illness, will the Graduate Council permit a student to withdraw from a course without a grade of F after the end of the eighth week of the semester or after the fourth week of an eight week summer session.

A maximum of six semester hours of transfer credit from another institution will be accepted for the degree, and no transfer course presented with a grade of less than B will be considered. They must have been earned not more than ten years before the student is admitted to the graduate program. All requests for transfer credit must be evaluated by the Graduate Council.

With the permission of the head of the department concerned and of the Graduate Council, a student may earn up to three of the thirty semester hours required for the degree by means of an independent-study project. No student may apply for permission to undertake an independent-study project until he has satisfactorily completed at least twelve semester hours of his approved Master of Arts program.

A student's first independent-study project will be recorded as course number 390 (cr. 1-3) of the department concerned. His second will be recorded as course number 391 (cr. 1-2), and his third as course number 392 (cr. 1).

Candidates for the degree must complete at least one semester or two summer sessions in full-time residence at the University. Not more than fifteen semester hours of work for graduate credit may be carried in any one semester, nor more than eight semester hours of credit in any summer session of eight weeks. All work for the master's degree must be completed within a period of seven calendar years from the date of the student's initial enrollment in the program.
"Full-time Residence" requirements are satisfied if a student carries five or more credit hours during each of two summer sessions, or ten or more credit hours during a single semester.

## Application For Graduation

To receive the degree of Master of Arts in Liberal Studies students must make formal application to the Director of Graduate Studies within the first week of the term in which they expect to be graduated. They must give evidence that they have fulfilled all requirements for the degree and receive the approval of the Graduate Council.

## FACILITIES

## Henry F. Moellering Memorial Library

This newly constructed modern library is air-conditioned and provides comfortable and pleasant surroundings for study. It is a two-story structure
with three stack levels. Reading space is provided for 500 persons and stacks contain in excess of 150,000 volumes. The main level consists of two large reading rooms, lobby, circulation desk, catalogue file, lounge, and offices. Also located on the main floor are the Sloan Galleries of American Paintings and their extensive collection of works by American artists.

## University Bookstore

The University's modern, self-selection bookstore is operated for the convenience of students in the purchase of books, supplies, and other necessary materials for classwork and daily living. Students should purchase textbooks before the second class meeting.

## Living Accommodations

In summer sessions, comfortable living accommodations in modern university dormitories on campus are available for graduate students.

The residence halls, with floors reserved especially for graduate students, are within a short walking distance of all classrooms.

Meals may be obtained at the Valparaiso Union located near the residence halls.

All requests for living accommodations must be made in advance of registration.

## Cultural and Recreational Opportunities

The University is less than fifty miles, or an hour's drive, from the city of Chicago with the cultural advantages offered by its great libraries, museums, art galleries, and concert halls.

For recreational activities, the University's new swimming pool and modernized gymnasium, as well as Lake Michigan, Dunes State Park, and golf courses are easily accessible.

## FEES



For further information write to<br>DIRECTOR OF GRADUATE STUDIES<br>VALPARAISO UNIVERSITY<br>VALPARAISO, INDIANA

## COURSES FOR GRADUATE CREDIT

## NOTE: Announcements for specific terms or summer sessions will indicate which courses are offered during those periods.

## ART <br> For Undergraduates and Graduates

205. Modern Art. Cr. 2. A study of the plastic and pictorial expressions of Europe and America from the 18th century to the present with particular emphasis on the 20th century development.

## BIOLOGY

## For Undergraduates and Graduates

205. Ecology. 2+4, Cr. 4. The taxonomy, ecology, and natural history of local animals and plants. A study of animals and plants in terms of their biotic, physical, and physiographic environment. Prerequisite: Biology 62 or 76 , or the equivalent. Laboratory fee, $\$ 6.00$. Field trip fee, $\$ 3.00$.
206. Microbiology. $2+4$, Cr. 4. A course in general microbiology, embodying a study of the general biological principles relating to bacteria and associated organisms. Prerequisite: Chemistry 71 or 103 (which may be taken concurrently) or Home Economics 195 (which may be taken concurrently) or the equivalent, or consent of the instructor. Laboratory fee, $\$ 6.00$.
207. (Formerly 116.) General Physiology. 3+3, Cr. 4. A study of the fundamental physiological activities of animals and plants. The course will consist of lectures, assigned readings, and experimental work in nutrition (including synthesis, oxidation, and energy release of nutrients and elimination of waste products ), irritability and response, and growth and reproduction. Prerequisites: Chemistry 71 or 103 (which may be taken concurrently), Biology 51 and 52 , or the equivalent. Laboratory fee, $\$ 6.00$.
208. (Formerly 127.) Genetics $3+0, \mathrm{Cr} .3$. A study of the principles of heredity and variation in animals and plants with emphasis on human heredity, plus a consideration of advanced topics (cytology, physiological genetics, mutations, etc.). Prerequisites: Biology 51 and 52, or the equivalent.

## For Graduates

305. Evolution: A Critical Study. $3+0, \mathrm{Cr}$. 3. A study of the theory of organic evolution, including evidences of evolution, course of evolution, and modern ideas on the mechanisms of evolution. Prerequisite: Genetics or consent of the instructor. Field trip fee, $\$ 3.00$.
306. Advanced Physiology. $3+4$, Cr. 4. An intensive study of the conversion of energy and matter in the living cell. Prerequisites: General Physiology and Organic Chemistry or consent of the instructor. Laboratory fee, $\$ 6.00$.
307. Developmental Biology. $2+3$, Cr. 3. The historical background, modern techniques, and descriptive and analytical account of growth and development. Prerequisite: General Biology or consent of the instructor. Laboratory fee, $\$ 6.00$.
308. Advanced Microbiology. $3+3$, Cr. 4. Lecture, laboratory, and discussion sessions designed to develop an understanding of molecular biology through study of the pertinent facts and methodology in microbiology, genetics, immunology, and biochemistry. Prerequisites: Microbiology or Bacteriology, Organic Chemistry, Genetics, or consent of the instructor. Laboratory fee, \$6.00.
309. Seminar in Biology. $1+0$, Cr. 1. Reports and discussions by staff members and graduate students on current research in biology. Required of all students presenting more than ten semester credits in biology for their master's degree. Prerequisite: consent of the chairman of the department.

## CHEMISTRY

## For Undergraduates and Graduates

205. Biochemistry. $3+3, \mathrm{Cr} .4$. The chemistry of proteins, carbohydrates, and fats, and the changes these undergo during processes of digestion and metabolism; brief consideration of enzymes and vitamins. Prerequisites: Chemistry 62 and 104 , or consent of the chairman of the department. Laboratory fee, $\$ 10.00$.
206. Advanced Inorganic Chemistry. $3+0, \mathrm{Cr} .3$. A systematic study of the elements and their compounds from the standpoint of the periodic law. Specal theoretical topics in inorganic chemistry are discussed. Prerequisite: three years of chemistry.

## ECONOMICS

## For Undergraduates and Graduates

275. (Formerly 205.) Economic History of the United States. Cr. 3. The history of the economic development of the United States from the colonial period to the present. Prerequisite: consent of the instructor.
276. (Formerly 210.) History of Economic Thought. Cr. 3. Economic thought in its historical development from the Mercantilists to the present day. Prerequisite: consent of the instructor.

## EDUCATION

## For Undergraduates and Graduates

205. Educational Measurement. Cr. 3. A course dealing with the history and theory of measurement, statistical analysis and interpretation of measurement data, and testing in relation to pupil achievement and guidance.
206. Curriculum Development. Cr. 3. A study of the composition of today's curriculum from elementary through secondary, the factors which affect its development, the principles governing curriculum organization, and current curricular patterns.
207. The Junior High School. Cr. 2. The role of the junior high school will be explored. Particular attention will be given to a critical analysis of current practice in the nature, purpose, organization, administration, and supervision of the junior high school. Prerequisite: Education 116 or 125 or the equivalent.
208. Improvement of Reading Instruction. Cr. 2. A course designed to review basic and current accepted practices in teaching reading. Problems concerned with the teaching of reading at the junior-high and high-school level will be emphasized. Techniques for teaching remedial reading and for guiding the reading of gifted children will be included. Prerequisite: Education 116 or 125 or the equivalent.
209. Seminar in Curriculum Problems. Cr. 2. Each year this seminar will study current problems in one area of the curriculum of the secondary school. Restricted enrollment.

## For Graduates

305. Philosophical Foundations of Education. Cr. 3. A course in educational thought designed to explore systems of thought with emphasis upon educational philosophic patterns, their influence upon the implications for pracice and theory in education.
306. Advanced Educational Psychology. Cr. 3. Basic study of psychological concepts and phenomena as related to the teaching-learning situation. Emphasis on the interpretation and analysis of psychological research concerning human behavior and development. Designed particularly for experienced teachers. Prerequisites: 15 hours in education, or consent of the instructor.

S315. Research in Secondary Education. Cr. 2. A review of basic and recent research on problems in secondary education, with attention to implications of research for classroom and administrative practice and theory. Both problems specific to the teaching of the various secondary-school subjects and problems of a more general nature are considered. Prerequisite: 15 hours in education or consent of the instructor.
320. Historical Foundation of Education. Cr. 3. The history of American education in its cultural framework.
S 325. Research in Elementary Education. Cr. 3. Recognition of the role of research in elementary education. A review of basic research and a study of current research in the various curricular areas and its application to principles of learning, instructional process, instructional materials, and curricular organization. Prerequisite: 15 hours in education or consent of the instructor.
328. The Supervision of Student Teaching. Cr. 3. A course dealing with the problems of supervising student teaching at the elementary and secondary levels. The historical development of student teaching, current student-teaching programs, and the problems related to the supervision of student teachers in the classroom and the school will be studied. Prerequisite: teaching experience and consent of the instructor.
330. Seminar in Educational Research. Cr. 2. Analysis of procedure and methods of research in education. Emphasis on student-initiated investigation into a selected educational field. Prerequisite: consent of the instructor.

## ENGLISH

## For Undergraduates and Graduates

205. Eighteenth Century Literature. Cr. 3. A study of literature of the Age of Pope and the Age of Johnson other than that of the drama and the novel.
206. Shakespeare. Cr. 3. A careful study of about eight of the most inportant plays, with more rapid reading of others.
207. Milton. Cr. 3. Some of the major writings of Milton, both poetry and prose, will be studied in relation to the religious, moral, and political issues of seventeenth-century England.
208. (Formerly 146.) Modern Drama. Cr. 3. A study of approximately a dozen plays typical of the various phases of the development of British and American drama since the beginning of the Romantic Movement.
209. TWENTIETH CENTURY Literature. Cr. 3. Lectures and readings corering some forerunners of the modern schools and the most characteristic works of a number of important contemporary American and British authors. Drama is not included.

## For Graduates

5 305. Analysis and Criticism. Cr. 2. A course designed to teach the methods of analysis of intellectual works (literary criticism, philosophy, satire, biography, history, argument, and rhetoric) and the methods of criticism of imaginative works (plays, fiction, and poems) which will be required in other graduate-level courses. Works of every major genre will be analyzed and criticized in class according to principles accepted in the various schools of criticism.
310. Wordsworth and Coleridge. Cr. 3. A study of the major works of Wordsworth and Coleridge with special emphasis upon their theories and pracices and upon the heritage of their critical theory.
315. Shakespearean Tragedy. Cr. 3. An intensive study of the five great tragedies of Shakespeare: Hamlet, Othello, King Lear, Macbeth, and Antony and Cleopatra. Prerequisite: a course in Shakespeare.
317. Poetry of the Renaissance. Cr. 3. An intensive study of selected works of three outstanding poets of the English Renaissance: Edmund Spenser, John Donne, and Ben Jonson.
320. Melville, Whitman, and Twain. Cr. 3. As a projection in breadth and depth beyond the survey courses in American literature, intensive textual study of these authors will not only examine carefully the new directions in especially mid-nineteenth-century America, but also analyze important literary contributions to our cultural development. Prerequisite: a course in American literature or consent of the instructor.
325. The Western Tradition I. Cr. 2. A study of some of the important aspects of the heritage that has come down to us from the ancient Greek, Roman, and Judeo-Christian cultures. This course will be devoted, for the most part, to a close reading of important selected texts. (Also offered as History 325.)
326. The Western Tradition II. Cr. 2. A study of some of the more emportant aspects of the heritage that has come down to us from the Middle Ages, the Renaissance, and the Reformation. This course will be devoted, for the most part, to a close reading of important selected texts. (Also offered as History 326.)

## FOREIGN LANGUAGES

For Undergraduates and Graduates
205. Contemporary French Literature. Cr. 3. A rapid reading course with supplementary classroom lectures in French literature of the late nineteenth and early twentieth centuries including such authors as Renan, Taine, Bourget, Loti, France, Rolland, Proust, Bergson. Prerequisite: French 106 or the equivalent.
205. Twentieth-Century German Literature. Cr. 3. Prerequisite: German 102 or the equivalent.
205. Spanish Drama of the Golden Age. Cr. 3. A study of the Spanish. drama in the Golden Age with rapid reading of representative dramatists. Prerequisite: Spanish 113 or 114 or the equivalent.

## GEOGRAPHY

## For Undergraduates and Graduates

205. Historical Geography of the United States. Cr. 2. A regional treatment of the exploration, colonization, territorial expansion, migration, transportation, settlement, and economic development of our country, integrated in relation to the physical framework of the environment in which and with which American regional patterns of culture have come to be established. The course is primarily designed for students majoring in one or another of the social sciences. Prerequisites: 10 credit hours in geography and geology, or 6 hours in geography and 6 hours in history, government, economics, or sociology, or consent of the instructor.
206. The Geography of World Affairs. Cr. 2. A workshop course to develop the technique of interpreting current world events in the geographic framework in which such events occur. From newspapers and periodicals currently received by the department, students clip articles for critical review and rewrite them in the form of "chorograms." Prerequisites: 10 credit hours in geography and geology, or 6 hours in geography and 6 hours in history, government, economics, or sociology, or consent of the instructor.

## For Graduates

305. Geographic Thought. Cr. 3. A conceptual approach to the content and contributions of geography in general education and in world society. Geographic facts and ideas are developed under the following categories: nature and scope of geographic thought; comparative Western and non-Western cultures,
differentiated in space and time; the geographic facts and ways of life; procedures and methods of identifying geographic investigation of human phenomenology; the Christian ethic of earth stewardship; geography as planning aforethought; teacher preparation in the earth sciences, including application of geographic understanding of world problems in specifically assigned projects. Prerequisite: consent of the instructor.
306. Western Cultural Geography. Cr. 3. An environmental appraisal of the European-American regional patterns of culture which are essential to the understanding of Western man. Prerequisite: consent of the instructor.

## GOVERNMENT

## For Undergraduates and Graduates

205. American Political Parties. Cr. 3. An intensive study of the origin, history, composition, policies, functions, and activities of political parties in the United States, including the evolution and operation of the party system. Prerequisite: Government 1 or consent of the instructor.
206. (Formerly 116.) The Constitution of the United States. Cr. 3. An examination of great constitutional issues, decided and undecided, in the light of the contemporary interpretation of the Constitution. Prerequisite: Government 1 , or consent of the instructor.
207. (Formerly 193.) Church and State. Cr. 2. An examination into some of the ramifications of church-state relationships in the United States. Prerequisite: senior standing or consent of the head of the department.
208. Recent Political Thought. Cr. 3. A detailed study of political ideas in the West from 1848 to the present day. Prerequisites: Government 53 and 54 or consent of the instructor.

## For Graduates

305. The Legislative Process. Cr. 2. A detailed study of the legislative machinery set up in the Constitution of the United States for determining and declaring the will of the people as the machinery functions within the political party system. Prerequisite: Government 1 or consent of the instructor.

## HISTORY

## For Undergraduates and Graduates

205. Twentieth Century America I. Cr. 3. A study of the United States from 1900 to 1932. Prerequisites: History 61 and 62 or the equivalent.
206. Twentieth Century America II. Cr. 3. A study of the United States from 1932 to the present. Prerequisites: History 61 and 62 or the equivalent.
207. Diplomatic History of the United States. Cr. 3. A survey of the foreign relations of the United States from the American Revolution to the present. Prerequisites: History 61 and 62 or the equivalent.
208. History of American Thought. Cr. 3. An introduction to the history of American thought through a study of significant thinkers and movements.
209. Nineteenth Century Europe. Cr. 3. A study of the culture and domestic and international politics of Europe from the close of the Napoleonic Wars to the outbreak of war in 1914. Prerequisites: History 51 and 52 or consent of the instructor.
210. (Formerly 137.) Age of The Reformation. Cr. 3. A study of the cultural and political history of Europe from the eve of the Reformation to the close of the religious wars and the Peace of Westphalia. Prerequisites: History 51 and 52 or consent of the instructor.

## For Graduates

305. The Interpretation of History. Cr. 3. The role of interpretation in the study of history with emphasis on major trends and types of historical thought in western culture.
306. Post-War America, 1865-1900. Cr. 3. An analysis of selected problems in the development of the United States from the end of the Civil War to the turn of the twentieth century. Attention will be centered upon the Negro in the new South, the urban-industrial transformation of the North, agrarian protest and revolt, and the disappearance of the last Western frontier.
307. The United States from $1815-1860$. Cr. 3. A history of the United States from 1815-1860. A study of the major political, social, and economic problems during the ante-bellum period. Prerequisite: a course in United States history or consent of the instructor.
308. Latin America in the Twentieth Century. Cr. 3. A study of the Latin American peoples since 1900, their internal problems, policies, and foreign relations. Attention will be centered upon Mexico and the Caribbean, where contact with the United States has been of greatest importance. Prerequisite: consent of the instructor.
309. Studies in Stuart England. Cr. 2. Through readings, discussions, and reports, this course will concentrate on the religious, political, economic, and social problems which led a country with a long tradition of constitutional development down the thorny road of civil war and regicide, into unknown paths of political experiment, to an uneasy Restoration, and, a generation later, to a glorious Revolution which finally resolved the basic problem of sovereignty. Prerequisite: a course in English history or consent of the instructor.
310. The Western Tradition I. Cr. 2. A study of some of the important aspects of the heritage that has come down to us from the ancient Greek, Roman, and Judeo-Christian cultures. This course will be devoted, for the most part, to a close reading of important selected texts. (This course is also offered as English 325.)
311. The Western Tradition II. Cr. 2. A study of some of the more important aspects of the heritage that has come down to us from the Middle Ages, the Renaissance, and the Reformation. This course will be devoted, for the most part, to a close reading of important texts. (This course is also offered as English 326.)
312. The Eve of the Reformation. Cr. 3. A study of the background of the Protestant Reformation. Attention will be focused on the economic, social, political, and intellectual changes which gave rise to the religious, theological, and ecclesiastic reform movements of the sixteenth century.

## MATHEMATICS

## For Undergraduates and Graduates

205. Elements of Statistics. Cr. 3. An introduction to descriptive statistics, elementary probability, and to some important classical probability distributions, including their application to statistical inference. Prerequisite: Mathematics 52 or its equivalent. This course is not open to any student who has had a first statistics course in any other department.
206. (Formerly 136.) Mathematical Statistics I. Cr. 3. An introduction to probability spaces, random variables, distribution functions, the law of large numbers and the central limit theorem. The application of this theory to statistical inference, including estimation, hypotheses testing, and simple regression problems. Prerequisite: Mathematics 74, or the equivalent.
207. Mathematical Statistics II. Cr. 3. A continuation of Mathematics 207. New topics include decision theory, analysis of variance, sequential sampilng, and nonparametric methods. Prerequisite: Mathematics 207, or the equivalent.
208. Elements of Modern Algebra I. Cr. 3. This course provides an introduction to modern abstract algebra. Topics from abstract algebra, including groups, rings, and fields. Prerequisite: Mathematics 52 or the equivalent.
209. Elements of Modern Algebra II. Cr. 3. Continuation of 210. Particular attention is given to the theory of matrices, matrix transformations, and the theory of vector spaces. Prerequisite: Mathematics 210 or the consent of the chairman of the department.
210. Mathematical Analysis. Cr. 3. Set nomenclature and set algebra. Real number system as an extension of other number systems. Sentences and equations. Identities, relations, functions, and graphs. Point sets and sequences. Geometric and arithmetic progressions. Limits. Derivatives and integrals. Prerequisite: a year course in calculus.

## For Graduates

305. Introduction to Design of Experiments. Cr. 2. A description of the place of experimental design in the field of statistics and of the mathematical basis for regression, analysis of variance and covariance, and various related designs. Prerequisite: a course in mathematical statistics.
306. Structures of Number Systems. Cr. 3. Vocabulary and symbolism of sets. Language and nature of deductive reasoning. Number theory and numeration systems. Number systems and their properties. Modular number systems and groups. Postulational method and a search for structure. This course is intended for teachers in the elementary schools. Not open to students who have had a year of calculus.
307. Development of Mathematical Foundations. Cr. 3. A review of the history of the axiomatic method and criteria for the axioms of a system. The nature of structure in mathematics as exemplified in various algebraic and geometric systems. Sets and the foundations of mathematics. An examination of the place of mathematics in the culture of different periods. Prerequisite: a year of calculus.
308. Introduction to General Topology. Cr. 3. Theory of sets. Metric spaces. Topological spaces. Connectedness and compactness. Prerequisite: Mathematics 220 or the equivalent.
309. Functions of Real Variables. Cr. 3. An exposition of the more fundamental and generally useful parts of the theory of functions of real variables. Provides the set and measure-theoretic basis for the extension of elementary concepts of calculus to more advanced topics including the Lebesgue Integral. Prerequisite: Mathematics 220 or the equivalent.

## MUSIC

## For Undergraduates and Graduates

205. Introduction to Church Music and Liturgy. Cr. 1. A study of the function of the organ, the choir, and the pastor in the church service. Sacred music will be studied in relation to the liturgy. Organists will give special attention to hymn playing, accompanying, modulation, and improvisation; theological and pretheological students will give special attention to the principles of chanting. Prerequisite: consent of the instructor.

## For Graduates

305. The Symphony. Cr. 2. This course will trace the history of the symphony from its beginnings to the modern period. While this course is not designed specifically for the professional major, it should also be of interest to such student. It serves this dual function insofar as it investigates the history of a specific musical form and, through this, is related to more general historical, stylistic, and aesthetic concerns.

## PHILOSOPHY

## For Undergraduates and Graduates

205. Philosophical Problems: Religion. Cr. 3. An approach through the great philosophies to the problem of religion, and the implications of this problem for several of the arts or sciences.

## For Graduates

305. Contemporary Philosophy. Cr. 3. An introduction to major problem areas and schools of thought in contemporary philosophy. The careful reading and discussion of significant philosophical texts is emphasized.

## PHYSICS <br> For Undergraduates and Graduates

205. Mechanics. 4+0, Cr. 4. A treatment of the dynamics of a point mass in one and three dimensions, oscillations and central force fields, collision problems, rigid bodies, the wave equation, and selected topics. Prerequisites: Physics 64 or 73 and Mathematics 172 . (Mathematics 172 may be taken concurrently.)
206. Electricity and Magnetism. $4+0, \mathrm{Cr}$. 4. This course emphasizes the basic laws of electricity and magnetism, the theory of dielectrics, D.C. and A.C. circuits, Maxwell's equations, and problems in wave propagation. Vector methods are used. Prerequisites: Physics 64 or 73 and Mathematics 172. (Mathematics 172 may be taken concurrently.)
207. Theoretical Physics. $2+0, \mathrm{Cr}$. 2. The LaGrange formalism, the LaPlace equation, Maxwell's equations, the wave equation, boundary value problems, applications to physics will be studied together with problems in mathematical physics depending upon the current interests of the students. Prerequisites: Physics 205 and 206, Mathematics 172, and consent of the instructor.
208. Theoretical Physics. $2+0$, Cr. 2. A continuation of Physics 210. Prerequisite: Physics 210.

## PSYCHOLOGY

## For Undergraduates and Graduates

205. History of Psychology. Cr. 3. The history of man's attempt to explain behavior. The contributions of other disciplines to the formation of various schools of psychology are considered.
206. Methods of Clinical Psychology. 2+2, Cr. 3. A study of the techniques of diagnosis and therapy employed in the clinical setting. Supervised practice in testing. Prerequisite: Psychology 155 or consent of the instructor.
207. (Formerly 305.) Learning and Motivation. Cr. 3. A study of the principles, techniques, and variables observed in the learning and motivational behavior of various organisms. Prerequisite: 6 hours of psychology or consent of the instructor.

## For Graduates

310. Principles of Psychotherapy. Cr. 3. Representative theoretical approaches to the process of personality change and to the techniques used in treating neurotic and psychopathic disturbances. Prerequisite: 3 hours of credit in psychology at the graduate level or consent of the instructor.
311. Problems in Personality Theory. Cr. 3. A treatment of the theoretical systems of personality, current approaches to the assessment of human motives, and the behavioral consequences of specific motives in the individual and society. Prerequisite: Psychology 215 or consent of the instructor.

## SOCIOLOGY

## For Undergraduates and Graduates

205. The Child and Society. Cr. 3. Theories of the social and cultural development of the child; his social and cultural development through family, peer group, school, and community. Comparison of childhood in American and other cultures. The child welfare movement; agencies and services in child care. Prerequisite: Sociology 54 or the equivalent.
206. (Formerly 132.) Juvenile Delinquency. Cr. 3. This course will include a study of the causes, treatment, and prevention of delinquency. Emphasis will be placed on the sociological and personality factors responsible for juvenile delinquency. The roles of the police, detention, the juvenile court, probation services, correctional schools, youth services, and other community agencies working toward the prevention of juvenile delinquency will be studied. Prerequisite: Sociology 54 or the equivalent.
207. Racial and Cultural Minorities. Cr. 3. The social and cultural interactions and reactions when people meet people. The history and development of representative dominant-minority situations with emphasis upon the United States. Programs and methods for the reduction of prejudice and discrimination. Prerequisite: Sociology 54 or the equivalent.

## SPEECH AND DRAMA <br> For Undergraduates and Graduates

205. The American Theatre and Its Literature. Cr. 3. A history of the American theatre from its beginning to the present. Masterpieces of American dramatic literature are studied in relation to contemporary theatre practices. Prerequisite: consent of the head of the department.
206. (Formerly 142.) Persuasion. Cr. 3. Development of skill in the composition and delivery of various forms of persuasive speeches. Also the development of techniques used in different types of discussion, such as those used in informal committee meetings and in more formal business conferences. Prerequisite: a course in speech.

## THEOLOGY

For Undergraduates and Graduates
205. Classics of Religious Literature. Cr. 3. A study of Christian devotional classics, such as selections from St. Augustine, Confessions; Bernard of Clairvaux, On Consideration; Benedict, Rule; Thomas a'Kempis, Imitation of Christ; Pascal, Thoughts; Kierkegaard, Purity of Heart.
210. The Biblical Message and Modern Man. Cr. 3. A consideration of religious questions raised by the modern mind and an examination of the answers offered by the Biblical message.

