ACADEMIC FUTURES IN:
Agriculture
Art
Biblical Languages
Biology
Biophysics
Business Administration
Business Education
Chemistry
Communication Media
Dental Hygiene
Elementary Education
Engineering
English
Foods and Nutrition
French
German
Health
History
Home Economics
Industrial Education & Technology
Journalism
Library Science
Mathematics
Medical Technology
Music
Nursing
Office Administration
Physical Education
Physics
Political Science
Psychology
Religion
Sociology
Spanish
Speech Communication
Speech Pathology and Audiology
Theology

These are the areas based on broad studies in humanities, basic science, mathematics, social science and the Christian heritage.
The College is accredited by

The Northwest Association of Secondary and Higher Schools
Association of Seventh-day Adventist Colleges and Secondary Schools
The Washington State Board of Education
Engineers' Council for Professional Development, Inc.
National Association of Schools of Music
Department of Baccalaureate and Higher Degree Programs of the National League for Nursing

is a member of

Association of American Colleges
Council of Member Agencies, Department of Baccalaureate and Higher Degree Programs of the National League for Nursing
American Association of Colleges for Teacher Education
National Association of Summer Sessions
American Council on Education National Commission on Accreditation

is approved by

U.S. Government for the training of veterans under the U.S. Code, Title 38, Chapters 31, 34, and 35
The Attorney General of the United States for nonimmigrant students
Washington State for training in Vocational Rehabilitation
FOR INFORMATION

Concerning application blanks, bulletins, general information, student handbooks, viewbooks, write
Director, Admissions and Records

Concerning apartments, financial arrangements and work, write
Director, Student Finance

Concerning room reservations and other matters of residence, write
The Dean of Men or
The Dean of Women
WALLA WALLA COLLEGE
College Place, Washington 99324

Telephone:
Walla Walla, Area Code 509
527-2000
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CALENDR, 1972-73

AUTUMN QUARTER
September 20-22 .... Freshman Orientation and Freshman Registration
September 22 and 24 .... Registration
September 25, Monday .... Instruction begins, 7:30 a.m.
October 9, Monday .... Last day to add a course
October 23 .... Graduate Record Examinations
November 22, 12:30 p.m. - November 26, 10:00 p.m. .... Thanksgiving Recess
December 3 - December 8, 12:00 noon .... Registration for Winter Quarter
December 14, 1:30 p.m. .... Quarter Ends
December 15 - January 2, 10:00 p.m. .... Christmas Recess

WINTER QUARTER
January 2, 1:00 - 5:00 p.m. .... Registration of New Students
January 3, Wednesday .... Instruction begins, 7:30 a.m.
January 17, Wednesday .... Last day to add a course
January 15 .... Graduate Record Examinations
March 4 - March 9, 12:00 p.m. .... Registration for Spring Quarter
March 15, 1:30 p.m. .... Quarter Ends
March 16 - March 20, 10:00 p.m. .... Spring Recess

SPRING QUARTER
March 21 and 22 .... Registration of New Students
March 21, Wednesday .... Instruction begins, 7:30 a.m.
April 4, Wednesday .... Last day to add a course
April 18-19 .... Undergraduate Record Examinations
June 1 .... Senior Consecration
June 2 .... Baccalaureate
June 3 .... Commencement

SUMMER QUARTER, 1973
June 7-8 .... Undergraduate Record Examinations
June 11 - August 5 .... Summer Session
June 18 .... Graduate Record Examinations
August 5 .... Commencement

*To be taken on one of these dates by students whose major department requires the GRE or those students who need this test to get into a graduate institution.
ADMINISTRATION

BOARD OF TRUSTEES

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R. L. Reynolds, Secretary
F. W. Bieber
M. J. Blair
W. D. Blehm
J. W. Bothe
Margaret Brown
L. W. Crooker
Lyle Griffin
J. C. Hansen
Larry C. Havstad
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Owen McComas
W. L. Murrill
C. J. Nagele
Dorothy Patchett
R. C. Remboldt
Earl R. Reynolds
M. C. Torkelsen
T. W. Walters
G. C. Williamson

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R. Dale McCune, Ed. D. ........................................... Vice President, Academic Affairs
Vernon H. Siver, B. A. ........................................... Vice President, Financial Affairs
Donald D. Lake, M. A. ........................................... Vice President, Student Affairs
Donald O. Eichner, Ph. D. ........................................... Vice President, Development and Public Relations

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Elwood L. Mabey, M. S. in L. S. ................................... Director of the Library
Jerry M. Lien, Ph. D. ........................................... Chaplain
Maynard E. Loewen, B. A. ........................................... Dean of Men
Betty Ann Howard, R. N., B. S., C. R. N. A. ...................... Dean of Women
Gordon S. Balharrie, B. D. ........................................... Dean, School of Theology
Wilma L. Leazer, M. S. ........................................... Dean, School of Nursing

ASSOCIATES IN ADMINISTRATION

Andrews, Kathryn; B. A. ........................................... Associate Registrar
Beck, Richard A.; B. A. ........................................... Director of Student Finance
Caviness, George L.; Ph. D. ........................................ Director of Summer Session
Christensen, Arthur; B. A. ........................................ Assistant Director of Student Finance
Cornforth, Lyle W.; M. Ed. ........................................ Director of Counseling and Guidance
Davis, Charles E.; B. S. ........................................... Director of Purchasing
Duncan, R. Scott; B. S. ........................................... Audio Visual Director
Gilliland, W. Melvin; M. A. ........................................ Associate Librarian
Graves, Shirley A.; M. S. in L. S. ................................ Assistant Librarian
Habenicht, Cheeri L.; B. S. ........................................ Assistant Dean of Women
Hagstrom, Hannah R.; M. A. ........................................ Associate Dean of Women
Hellig, Lois M.; B. A. ........................................... Chief Accountant
Huff, Wynelle; M. S. ........................................... Assistant Dean, School of Nursing
Hultze, Georgie; B. S. ........................................... Assistant Dean of Women
King, Patti; B. S. ........................................... Assistant Dean of Women
Losey, Jimmie D.; M. D. ........................................... College Physician
Madsen, Glenn W.; M. S. E. E. ................................... Director, Computer Services
Ochs, Lois ........................................... Admissions Secretary
Osborne, Howard L.; M. D. ........................................ Associate College Physician
Owens, Annabelle ........................................... Associate Dean of Women
Palmer, Joy; M. L. S. ........................................... Assistant Librarian
Ritchie, JoAn ........................................... Public Relations Assistant
Sample, Clyde J.; B. S., A. D. A. ................................ Director of Food Service
Sickler, Helen; M. S. L. S. ........................................ Assistant Librarian
Speckho, Helen; R. N. ........................................... Director of Health Service
Stoddard, Grace; B. S. ........................................... Associate Director of Health Service
Weller, Carolyn; M. S. ........................................... Associate Librarian and Associate Registrar
Wickward, Joyce G. ........................................... Assistant Accountant
THE FACULTY

ANDERSON, BONNIE, Instructor in Nursing
R. N., 1969, Branson Hospital School of Nursing; B. S., 1971, Walla Walla College

ANDERSON, WANDA, Instructor in Nursing
B. S., 1960, Walla Walla College

AYALA, CARLOS, Instructor in Spanish
B. A., 1948; M. A., 1970, Pacific Union College

BALLHARIE, GORDON S., Professor of Theology

BARNES, JOSEPH N., Professor of Theology

BARNETT, CLAUDE C., Professor of Physics
B. S., 1952, Walla Walla College; M. S., 1956, State College of Washington; Ph. D., 1960, Washington State University

BELL, CHARLES, Associate Professor of Physics
B. S., 1956, Mississippi State University; M. S., 1957; Ph. D., 1960, Stanford University

BENNETT, FREDERICK R., Assistant Professor of Engineering

BISGARD, ANN, Assistant Professor of Nursing
B. S., 1965, St. Xavier College; M. S., 1966, University of California

BLAICH, ROLAND D., Assistant Professor of History
B. A., 1966, California State College at Los Angeles; M. A., 1967, California State College at Los Angeles

BLAKE, CHESTER D., Assistant Professor of Industrial Education and Technology
B. S., 1963, Walla Walla College; M. A., 1968, San Jose State College

BOOTH, ELIZABETH A., Instructor in Nursing
B. S., 1967, Walla Walla College; M. S., 1970, University of Michigan

BROWN, CAROL, Assistant Professor of Nursing
B. S., 1965, Walla Walla College; M. S., 1968, Loma Linda University

BRUNT, JOHN C., Instructor in Religion

BURGESON, RUTH E., Associate Professor of English
B. A., 1931, M. A., 1937, Pacific Union College

*BUSHNELL, VINSON, Assistant Professor of Music
B. A., 1958, Southern Missionary College; M. A., 1960, University of Rochester

CAMP, SANDRA L., Assistant Professor of Piano

CANADAY, LEWIS H., Associate Professor of Industrial Education and Technology

CARRIGAN, FLORENCE, Assistant Professor of Nursing
B. S., 1953, Columbia Union College; M. Ed., 1968, Columbia University Teachers College

CAVINESS, GEORGE L., Professor of Modern Languages
B. A., 1937, Pacific Union College; M. A., 1939, University of California (Berkeley); Ph. D., 1947, Ohio State University

CHAMBERS, JAMES R., Professor of Chemistry
B. A., 1939, Columbia Union College; M. S., 1949 Case Western Reserve University; Ph. D., 1958, Texas A and M University

CHANCE, JANICE P., Assistant Professor of Nursing
B. S., 1959, Walla Walla College; M. S., 1967, Loma Linda University

CHINN, CLARENCE E., Associate Professor of Chemistry
B. A., 1951, Walla Walla College; M. S., 1953, Ph. D., 1956, Oregon State University; 1969, University of Tennessee

*Leave of absence current year.
CLAYTON, DALE, Assistant Professor of Biology
B. A., 1962, Andrews University; M. A., 1964, Loma Linda University; Ph. D., 1968, Michigan State University

CLEMONS, J. MELVYN, Professor of Theology
A. B., 1943, Atlantic Union College; M. A., 1953, Theological Seminary, Andrews University; 1966, Clark University; B. D., 1964, Andrews University

COLE, JON A., Associate Professor of Engineering

COWIN, DARRELL J., Assistant Professor of Industrial Education and Technology

CROSS, EDWARD F., Professor of Engineering
M. E., 1929, Stevens Institute of Technology; M. A., 1938, Columbia University; P. E., 1948, Washington; P. E., 1952, Oregon

CZERAZKI, REINHARD, Assistant Professor of Modern Languages
B. A., 1964, Atlantic Union College; M. A., 1967, Middlebury College

DASSENGKO, JACK, Instructor in Agriculture
B. S., 1950, Andrews University; M. S., 1951, University of Minnesota

DICKINSON, LOREN, Professor of Speech
B. A., 1957, Union College; M. A., 1960, University of Nebraska; Ph. D., 1968, University of Denver

DICKSON, LEAL G., Assistant Professor of Biology
B. A., 1962, Columbia Union College; M. S., 1969, Ph. D., 1971, University of Maryland

DRESSLER III, ANDREW, Assistant Professor of Business Administration

EICHNER, DONALD O., Associate Professor of Political Science

EMMERSON, RICHARD K., Instructor in English

EVANS, HELEN WARD, Professor of English

FARNSWORTH, JUDY, Instructor in Nursing
B. S., 1969, Walla Walla College

FORSS, CARL A., Associate Professor of Biology

FOWLER, RAY W., Professor of Business and Economics
B. A., 1929, Union College; M. A., 1941, University of Idaho; Ph. D., 1951, University of Nebraska

FRENCH, LLOYD D., Assistant Professor of English

FURBER, HELEN, Assistant Professor of Nursing
B. S., 1964, University of Oregon; M. S., 1965, University of Minnesota

GARDNER, ROBERT W., Instructor in Sociology
B. A., 1969, Pacific Union College; M. A., 1971, Loma Linda University

GIBSON, GERTRUDE M., Professor of Office Administration

GIBSON, GILBERT H., Associate Professor of Mathematics
B. A., 1931, Walla Walla College; M. S., 1950, Oregon State University

GILLILAND, W. MELVIN, Assistant Professor of Library Science
B. A., 1949, Union College; M. A., 1965, University of Denver

GLAIRM, LORNE E., Assistant Professor of History

GRABLE, ALBERT E., Associate Professor of Biology
B. S., 1959, La Sierra College; M. S., 1962, Ph. D., 1964, University of Minnesota
GRAVES, SHIRLEY A., Assistant Professor of Library Science  
B. A., 1960, La Sierra College; M. A., 1964, University of Redlands; M. S. in L. S., 1969, University of Southern California

GROVE, J. PAUL, Professor of Theology  

GRUESBECK, KENNETH L., Instructor in Industrial Education and Technology  
B. A., 1932, Columbia Union College

HALL, DONALD E., Associate Professor of Physics  

HARE, GORDON B., Professor of Mathematics  
B. A., 1951, Columbia Union College; M. S., 1954, Ph. D., 1964, University of Colorado

HARRIS, DANIEL S., Assistant Professor of Sociology  
B. A., 1965, M. A., 1966, La Sierra College

HARTNELL, CALVIN V., Instructor in Religion  

HEISLER, RODNEY, Assistant Professor of Engineering  

HENDERSON, ROBERT A., Professor of History  

HINGLEY, RÔY A., Instructor in Education and Psychology  

HOEL, JEANETTE, Instructor in Speech  

HUFF, WYNELLE, Associate Professor of Nursing  
B. S., 1962, Union College; M. S., 1966, University of California

HUNTER, ROBERT J., Assistant Professor of Music  
A. B., 1959, Pacific Union College; M. A., 1962, Andrews University

IRWIN, BERNADETTE, Instructor in Nursing  
B. S., 1969, Walla Walla College; M. S., 1972, Loma Linda University

JOHNSEN, INGRID RUDY, Associate Professor of Nursing  
B. S. in Nursing, 1936, Columbia Union College; M. A., 1959 Walla Walla College

JOHNSON, EDNA M., Assistant Professor of Nursing  
B. S., 1965, Loma Linda University; M. A., 1970 University of California

JOICE, PAUL W., Professor of Business and Economics  
B. S., 1949, Union College; M. B. A., 1953, University of Denver; Ed. D., 1962, University of Nebraska.

JONES, CARL T., Professor of Chemistry  
B. A., 1933, Columbia Union College; M. S., 1939, Catholic University of America; Ph. D., 1959, Oregon State College

JONES, RALPH L., Assistant Professor of Business  

KNAPP, LUCILE HARPER, Assistant Professor of Biblical Languages  

KOENIG, WILLIAM E., Instructor in Agriculture  
B. S., 1950, Andrews University; M. S., 1963, Michigan State University

KOORENNY, RALPH L, Professor of Business and Economics  
B. A., 1946, Walla Walla College; M. A., 1948, Washington State University; Ph. D., 1957, University of Colorado

LANGE, MELVIN S., Associate Professor of Mathematics  
B. S., 1957, Valley City State Teachers College; M. A., 1958, Colorado State College

LEAZER, WILMA L., Professor of Nursing  
B. S. N. Ed., 1947, Columbia Union College; M. S., 1958, Loma Linda University

LENO, H. LLOYD, Associate Professor of Music  
LEWIS, LARRY M., Assistant Professor of Theology  

LICKEY, EUGENE HAROLD, Professor of Music  
B. A., 1950, Union College; M. Mus., 1958, Texas Christian University; D. Mus., 1970, University of Indiana

LISKE, ELWIN L., Assistant Professor of Industrial Education and Technology  
B. S., 1963, Walla Walla College; M. A., 1967, San Jose State College

LITKE, RICHARD L., Professor of Biblical Languages  
B. A., 1948, Walla Walla College; B. A., 1953, M. A., 1953, University of California; Ph. D., 1959 Yale University

LOFFTUS, ANNETTE, Instructor in Nursing  
B. S., 1955, Walla Walla College; M. S., 1972, University of Oregon

LONG, LORA LEE, Instructor in Home Economics  
B. A., 1966, Walla Walla College

MABERY, NORMAN C., Professor of Education and Psychology  
B. Th., 1952, Walla Walla College; M. A., 1954, Andrews University; Ed. D., 1962, University of Southern California

MABLEY, EDWOOD L., Associate Professor of Library Science  
B. A., 1948, Walla Walla College; M. S. in L. S., 1959, University of Southern California

MABLEY, VIRGINIA, Instructor in Office Administration  
B. A., 1948, Walla Walla College

MACKINTOSH, KENNETH R., Professor of Art  
B. F. A., 1959; M. F. A., 1961, Otis Art Institute of Los Angeles County

MASDEN, GLENN W., Professor of Engineering  
B. S. E. E., 1955; M. S. E. E., 1958, University of Colorado

MAXWELL, D. MALCOLM, Professor of Theology  
B. A., 1956, Pacific Union College; M. A., 1958, Andrews University; Ph. D., 1968, Drew University

MEYER, BONNIE, Instructor in Nursing  
B. S., 1969; M. S., 1972, Loma Linda University

MCCLOSKEY, LAWRENCE, R., Assistant Professor of Biology  

McCULLEY, CLYDE E., Assistant Professor of Art  

McNIEL, ORAN, Assistant Professor of Engineering  
B. S., 1961, Walla Walla College; M. S. E. E., 1969, Degree of Engineer, 1971, Stanford University

MEHLING, J. G., Professor of Business and Economics  

MOORE, NATHAN, Associate Professor of English  
B. A., 1963, Rockford College; M. A., 1965, Carlton University; Ph. D., 1972, University of British Columbia

MOORE, ROBERT J., Professor of Journalism  
B. A., 1948, Atlantic Union College; M. A., 1953, Boston University; Ph. D., 1968, Syracuse University

MUNROE, DENNIS A., Instructor in Physical Education  
B. S., 1972, Walla Walla College

MURPHY, WILLIAM H., Assistant Professor of Music  
B. A., 1952, Union College; M. A., 1960, Colorado State College

NOEL, ROBERT L., Associate Professor of Engineering  

OCHS, HAROLD T., Associate Professor of Education  

OLSON, CAROLYN, Instructor in Nursing  
B. S., 1961, Loma Linda University

OSTERUD, HAROLD H., Instructor in Public Health and Epidemiology  
M. D., 1947, Medical College of Virginia; M.P.H., 1951, University of North Carolina

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PALMER, Greta-Joy, Assistant Professor of Library Science

PERRY, ALFRED EUGENE, Associate Professor of Biology
B. A., 1953; M. A., 1958, Walla Walla College; Ph. D., 1965, Oklahoma State University

PHILLIPS, HOLLIBERT E., Assistant Professor of Education and Psychology
B. A., 1960, University of London; M. A., 1964, Andrews University; Ed. D., 1979, Boston University

QUIRING, ED E., Assistant Professor of Office Administration

RAWSON, SHARON, Instructor in Nursing
B. S., 1956, Walla Walla College

REEF, ELIZABETH, Instructor in Health and Physical Education
B. A., 1966, La Sierra College; M. Ed., 1968, University of Nebraska

RIGBY, DONALD W., Professor of Biology
B. A., 1950, La Sierra College; M. A., 1955, Walla Walla College; Ph. D., 1967, Loma Linda University

RIGBY, DONNIE THOMPSON, Associate Professor of Speech
B. A., 1952, La Sierra College; M. A., 1965, Redlands University

RITTER, E. JOYCE, Associate Professor of Nursing
B. S., 1960, Walla Walla College; M. N., 1964, University of Washington

RUDY, HENRY L., Instructor in Religion
B. A., 1924, Walla Walla College

SCHNEIDER, EDWARD G., Assistant Professor of Health Education

SCHWANTES, CARLOS A., Assistant Professor of History

SCHWANTES, MARY, Instructor in Home Economics
B. S., 1968, Eastern Michigan University

SHAW, ROSE R., Instructor of Nursing
B. S., 1968, Walla Walla College

*SHERRARD, DENA, Instructor in Nursing
B. S., 1969, Walla Walla College

SICKLER, HELEN H., Assistant Professor of Library Science
B. A., 1955, Pacific Union College; M. S. L. S., 1962, University of Southern California

SMITH, LOIS A., Assistant Professor of Nursing
B. S., 1965, Walla Walla College; M. S., 1967, Loma Linda University

SOFER, WARD ARTHUR, Associate Professor of Mathematics
B. A., 1961, Andrews University; M. A., 1962, University of Michigan

SORENSEN, N. CLIFFORD, Associate Professor of Education and Psychology
B. S., 1958; M. A., 1963, Walla Walla College

SPRING, GLENN E., Jr., Associate Professor of Music
B. A., 1962, La Sierra College; M. Mus., 1964, Texas Christian University

*STEVENS, CAROLYN, Instructor in English
B. A., 1965, Pacific Union College; M. A., 1966, La Sierra College

TLIE, LOIS FLORETTA, Associate Professor of Education
B. A., 1947, Emmanuel Missionary College; M. Ed., 1959, University of Oregon

*THOMPSON, ALDEN L., Instructor in Religion

THOMPSON, CLARE, Instructor in Nursing
B. S., 1967, Walla Walla College

THOMPSON, THOMAS M., Instructor in Mathematics

TRAUTWEIN, CALVIN L., Professor of Industrial Education and Technology

WAGNER, DALE O., Associate Professor of Education and Psychology

*Leave of absence current year.
WATSON, PHOEBE, Instructor in English

*WATERBROOK, JOHN L., Assistant Professor of Physical Education

WEST, MELVIN K., Professor of Music
A. B., 1952, Emmanuel Missionary College; M. Mus., 1955, Redlands University; Mus. A. D. 1969, Boston University; F. A. G. O., 1957

WIDICKER, BONNIE G., Instructor in English

WINSLOW, GERALD A., Instructor in Religion

WINTER, EUGENE S., Professor of Physical Education
B. A., 1941, Walla Walla College; M. S., 1948, State College of Washington; Ph. D., 1963, University of Oregon

WISS, GARY ALAN, Assistant Professor of English

WOOD, CLARENCE A., Assistant Professor of Speech
B. A., 1961, La Sierra College; M. A., 1963, University of Denver

WRIGHT, EVELYNNE F., Professor of Home Economics
B. A., 1941, Pacific Union College; M. S., 1953, Oregon State College

EMERITI

ALCOCK, HERBERT J., Professor of Religion
B. A., 1927, B. Th., 1927, Emmanuel Missionary College; M. A., 1942, Michigan State University

APLINGTON, KENNETH A., Professor of English
B. A., 1935, Walla Walla College; M. A., 1942, University of Washington

BLACK, IRENE T., Registrar
B. A., 1941, Columbia Union College

BOWERS, GEORGE W., Professor of Chemistry
B. A., 1917, Union College; M. A., 1924, Ph. D., 1935, University of Nebraska; LL. D., 1956, Walla Walla College

HANSON, FREDRICK R., Professor of Nursing
B. A., 1932, Walla Walla College; M. A., 1942, University of Washington

LOSEY, LEON E., Professor of Agriculture
B. A., 1921, Walla Walla College; M. S., 1939, Oregon State College

LUDGATE, T. K., Professor of Religion
B. A., 1942, Columbia Union College; M. A., 1945, Theological Seminary, Andrews University

MECKLING, FRANK E., Professor of History
B. A., 1929, Columbia Union College; M. A., 1931, University of Maryland; Ph. D., 1950, University of California at Los Angeles

RASMUSSEN, HANS L., Academic Dean 1959-69
B. A., 1937, Emmanuel Missionary College; M. A., 1943, University of Michigan; Ed. D., 1946, Stanford University

SCHLOTTAHER, LILAH GODFREY, Associate Professor of Mathematics
B. A., 1923, Walla Walla College; M. S., 1934, University of Washington

SHANKEL, CECIL W., Professor of Chemistry
B. A., 1924, Walla Walla College; M. A., 1926, University of Nebraska

SMITH, WALTER L., Professor of Education
B. A., 1911, Union College; M. S., 1917, Whitman College; Ed. D., 1934, George Washington University; LL. D., 1957, Walla Walla College

SORENSON, AGNES L., Professor of Modern Languages
B. A., 1923, Emmanuel Missionary College; M. A., 1929, University of Michigan

STOEHR, HENRIQUE G., Professor of Modern Languages
B. A., 1948, Walla Walla College; Dr. U.P., 1982, University of Paris

WEAVER, GENEVIEVE STABLER, Associate Professor of Secretarial Science
B. A., 1949, Walla Walla College

WESTERMeyer, HARRY E., Professor of History
B. A., 1917, Clinton Theological Seminary; M. A., 1934, College of the Pacific; Ph. D., 1946, Stanford University

*Leave of absence current year.
FACULTY COMMITTEES*

ACADEMIC STANDARDS

ADMINISTRATIVE COUNCIL

ADMISSIONS

FACULTY SENATE
R. L. Reynolds, R. D. McCune, Orpha Osborne, V. H. Siver, and all chairmen of departments.

GRADUATE COUNCIL

HEALTH AND SAFETY
C. E. Davis, Florence Carrigan, Patti King, M. E. Loewen, J. D. Losey, C. J. Sample, E. G. Schneider, Helen Speckko, C. L. Trautwein, E. S. Winter.

LIBRARY

MENTAL HEALTH

PROFESSIONAL EVALUATION

PUBLIC RELATIONS

RELIGIOUS INTERESTS
Chaplain, G. S. Balharrre, J. C. Brunt, J. A. Cole, R. Czeratzki, G. B. Hare, Betty Howard, D. D. Lake. J. M. Lien, M. E. Loewen, Lora Lee Long, D. M. Maxwell, H. T. Ochs, ASWPC Spiritual Vice President, CS Spiritual Vice President, AD Spiritual Vice President, OPS Spiritual Vice President, AGA Spiritual Vice President, EMS Spiritual Vice President.

SCHOLARSHIPS AND GRANTS

*The first-named committee member acts as chairman.
SOCIAL ACTIVITIES

STUDENT AFFAIRS

TEACHER EDUCATION COUNCIL
N. C. Sorensen, R. D. McCune, Orpha Osborne, and the chairmen of all departments offering a major or minor designed for students planning on elementary or secondary school teaching.

FACULTY ADVISERS

ACADEMIC ADVISERS

In Majors: Degree candidates will consider the chairman of the department in which they major to be their faculty adviser in all matters relating to their academic program. Students planning to teach in either elementary or secondary schools should also counsel with the chairman of the department of education.

In Preprofessional Programs: Members of the faculty have been appointed to serve as advisers to students preparing for careers in certain professional vocations, as follows:

Correction and Law Enforcement ........................................... D. S. Harris
Dental ..................................................................................... C. E. Chinn
Dental Assistant ................................................................. A. E. Grable
Dental Hygiene ..................................................................... A. E. Grable
Law ......................................................................................... P. W. Joice
Medical .................................................................................... C. T. Jones
Medical Technology .............................................................. J. R. Chambers
Nursing ..................................................................................... Wilma Leazer, Florence Carrigan
Occupational Therapy ............................................................. E. S. Winter
Optometry ................................................................................ D. E. Hall
Pharmacy .................................................................................. C. T. Jones
Physical Therapy ..................................................................... E. S. Winter
Social Work ............................................................................. D. S. Harris
Veterinary ................................................................................ D. W. Rigby
X-ray Technology ..................................................................... C. C. Barnett

PERSONAL COUNSELORS

As a part of the college counseling program of helping each student to achieve his goals in college, members of the faculty serve as personal counselors to individual students. Freshman students will choose a personal counselor during the latter part of the autumn quarter. Students above the freshman level usually choose to counsel with some teacher within the department of their major field of emphasis.

The vice president for student affairs is the coordinator of the counseling program of the College.
STUDENT ORGANIZATION ADVISERS

Aleph Gimel Ain .......................................................... Betty Ann Howard
SWWC Center .............................................................. Ruth Burgess, D. O. Wagner
SWWC Graduate Manager ................................................ Donald D. Lake
SWWC Nominating Committee ......................................... Donald D. Lake
SWWC Religious Activities Committee ............................. Donald D. Lake
SWWC Social Activities Committee ................................ Donnie Rigby
aurora Duxes ................................................................ R. K. Czeratzki
biquita Sola ................................................................. Lora Lee Long
The Collegian .................................................................. Roberta Moore
Cosmopolitan Club ........................................................ G. L. Caviness
Epsilon Mu Sigma .......................................................... Gordon B. Hare
Missionary Volunteers ................................................... D. M. Maxwell
The Mountain Ash ......................................................... L. H. Canaday
Micron Pi Sigma ............................................................ M. E. Loewen
Peace Corps, Vista .......................................................... D. S. Harris
Sabtah School ............................................................... J. Melvyn Clemons
TWC Flying Club .......................................................... L. A. Border

RESIDENTS OF WALLA WALLA COLLEGE

Edward A. Sutherland .................................................. 1892-1897
Emmett J. Hibbard ......................................................... 1897-1898
Walter R. Sutherland .................................................... 1898-1900
Edwin L. Stewart .......................................................... 1900-1902
Charles C. Lewis .......................................................... 1902-1904
Joseph L. Kay .............................................................. 1904-1905
Marion E. Cady ............................................................. 1905-1911
Ernest C. Kellogg .......................................................... 1911-1917
Walter I. Smith ............................................................ 1917-1930
John E. Weaver ........................................................... 1930-1933
William M. Landeen ..................................................... 1933-1938
George W. Bowers ....................................................... 1938-1955
Percy W. Christian ........................................................ 1955-1964
William H. Shephard .................................................... 1964-1968
Robert L. Reynolds ....................................................... 1968-
AUXILIARY ENTERPRISES, Managers

SIVER, VERN H., B. A...........................................General Manager
BOGDANOVICH, MICHAEL...........................................Bindery
BORDER, LESTER A..................................................Plant Service
...........................................................................Store
CHENEY, MONTE O., B. A......................................Grounds
KOENIG, WILLIAM E., M. S..................................Farm
MUNROE, EARL C.....................................................Custodial
TAYLOR, EDWARD S............................................Laundry and Dry Cleaners
WICKWARD, BRUCE G., B. S..................................Dairy
WOHLERS, JOHN D., B. A........................................Press
Walla Walla College is a Christian institution of higher learning operated by the Seventh-day Adventist Church. The College recognizes that true education "has to do with the whole being, and with the whole period of existence possible to man. It is the harmonious development of the physical, the mental, and the spiritual powers. It prepares the student for the joy of service in this world, and for the higher joy of wider service in the world to come." Education, Mrs. E. G. White, p. 13.

To achieve this broad aim of education, the College provides an environment in which the student may develop a personal fellowship with Christ. In common with other institutions of higher learning, the College has for its objective the greatest possible scholastic and intellectual attainment for each student. Recognizing the value of health, it encourages the students to respect their physical powers and accept the responsibility for healthful living.

As a liberal arts college, the institution stresses a thorough general education in the humanities, mathematics, science, social science and the Christian heritage, as well as competence and depth in a specified field. It is believed that such studies provide the best foundation for higher learning and for developing leaders with a world vision.

The College also serves students with interests and abilities in industrial and vocational skills. Instruction is, therefore, offered which develops both understanding and proficiency in a number of technical and industrial areas. The institution believes in the value and dignity of practical work.

While serving primarily the Seventh-day Adventist youth of the Pacific northwest, the College accepts students from other states and countries who are qualified to do college work and who are willing to abide by the Christian principles enjoined on the campus.
Walla Walla College is interested in who you are, what your potential is, where you should develop it, why you should—and when!
GENERAL INFORMATION

WALLA WALLA College is located in the city of College Place, in the historic, fertile Walla Walla Valley of southeastern Washington. The Old Oregon Trail, near the campus, leads directly to the site of the old mission which was conducted by Marcus Whitman from 1836 to 1847. It has recently been reconstructed by the Federal Government as the Whitman Mission National Historic Site. The scenic Blue Mountains to the east are but a few minutes' drive from the campus, and offer unusual opportunities or recreation and relaxation.

The College, in successful operation since December 7, 1892, was established in harmony with a resolution unanimously adopted at the General Conference of Seventh-day Adventists held in Battle Creek, Michigan, in 1891.

CAMPUS AND BUILDINGS

The college buildings are situated on a 55-acre campus dotted with maple and sycamore trees. Other buildings belonging to the College are located on adjoining lots of land, totaling 22 additional acres.

ADMINISTRATION BUILDING. The Administration Building is a three-story structure located in the center of the campus. This building houses the administrative offices and a number of classrooms, laboratories, and teacher offices.

BOWERS HALL. The department of chemistry is housed in Bowers Hall, a two-story brick building. The accommodations include two classrooms, five laboratories, two research laboratories, a library-seminar room, three offices, a stockroom, and a photographic darkroom.
COLLEGE CHURCH. The College Church is a large, new, brick structure done in modern architecture. It seats 2,500 worshipers and 150 choir members. The Casavant-Freres organ is a three-manual, five-division instrument with almost 5,000 pipes. In addition to the church itself, there are a youth chapel and several large rooms for youth and children's Sabbath Schools.

COLUMBIA AUDITORIUM. Columbia Auditorium, a reinforced concrete gymnasium-auditorium with a seating capacity of over 2,000 persons, is equipped with a Balcon and Vaughn pipe organ. The building serves the college community as an auditorium and as a gymnasium. The large floor provides space for physical education activities, games and roller skating, while retaining the galleries for use of spectators.

CONARD HALL. Conard Hall offers comfortable accommodations for 400 women, together with such features as a large worship room done in church style, a recreation room and attractive parlors.

E. C. KELLOGG HALL. Kellogg Hall, a brick and steel structure, completed in 1958, contains the college food service. The building also houses the Student Association's offices, lounge, Mountain Ash office and the Collegian office.

FINE ARTS CENTER. A new two-story reinforced concrete structure with brick and marblecrete exterior, completed in 1966, houses the departments of art and music. The building occupies the site of the old Johnson Memorial Conservatory. An auditorium seating 300 persons is a central feature of the building around which departmental offices, teaching studios, choral and instrumental rehearsal rooms, practice rooms, etc., are grouped. There are two classrooms, a reception room and foyers.

The building is furnished with a three-manual, 36-rank Casavant organ with exposed pipework, a nine-foot Steinway concert grand piano, listening facilities and recording equipment, many pianos, and other instruments.

The south front wing houses the department of art, where classroom and work area provide space and facilities for drawing, painting, design, printmaking and sculpture. A display area for art is provided in the downstairs hallways and courtyards.

GYMNASIUM. A new recreational-teaching facility built in connection with the Tausick Memorial Pool. The building accommodates three basketball courts, ten badminton, six volleyball, and three tennis areas, in addition to two handball courts, plus gymnastics and storage areas. It was built jointly through the efforts of the alumni and the college. The building was completed in February 1971.

HIGH-RISE DORMITORY. Completed in October, 1970, the High-Rise residence hall for women houses 206 upper-division students. Using a modular design, the building is unique in providing elevator service, individual floor parlors, and carpeting throughout the building.

INDUSTRIAL EDUCATION AND TECHNOLOGY BUILDING. The department of industrial education and technology is housed in a one-story frame building in excellent condition containing 17,000 square feet of floor space. There are six offices, two classrooms, and six shop-laboratories. Here the students receive both the theoretical instruction
as well as the necessary practicum for the programs in automotive, de-
pictics, electronics, graphics, industrial crafts, maintenance, metals, and
woods.

**KRETSCHAMAR HALL.** This building, completed in 1963, is a reinforced
cement and masonry structure of 30,000 square feet, housing the depart-
ments of engineering, physics, and mathematics. In addition to class-
rooms, laboratories, and staff offices, the building contains a departmental
library, computer room, radioactive isotope storage vault, and a science
demonstration lecture hall seating 150 persons.

**LIBRARY.** The College library is a vital part of the educational
program at Walla Walla College. The main library building was completed
in 1944 and remodeled in 1964. Reading room accommodations, the open-
shelf system, seminar and conference rooms, and a periodical room con-
tribute to the study and enjoyment of books. Microfilm and microcard
readers make accessible microforms of scholarly material. The curriculum
library, located in Smith Hall, contains a large selection of textbooks, chil-
dren's literature books, a collection of mounted pictures, filmstrips, tapes
and phonorecords. The library on the Portland campus serves specifically
the students of nursing assigned there to obtain their clinical practice.
The combined libraries contain 120,418 volumes. An average of 5,600 vol-
umes is accessioned annually. There are about 900 currently received
periodicals. Periodical indexes and other bibliographical aids are also
available. Resources in other libraries are available to graduate students
and faculty members through the library's membership in the Pacific
Northwest Bibliographic Center, which serves as a clearinghouse for in-
terlibrary loans.

**LIFE SCIENCES COMPLEX.** Departments housed in the Life Sci-
ences Complex completed in 1967 are biology, home economics, and
nursing.

Facilities for biology include staff and graduate student offices, class-
rooms, and teaching laboratories. In addition, specialized facilities are
research laboratories, controlled environment rooms and chambers, radio-
isotope laboratory, animal and greenhouse complexes, photographic dark-
room, museum, and a shop.

The department of home economics is housed in the east wing of the
Life Sciences Complex. The accommodations include offices and class-
rooms, a dining room, lounge and laboratories for food preparation, ad-
vanced nutrition, experimental foods, animal studies, clothing construction,
weaving, and home furnishings.

Also, in the Life Sciences Complex are offices and classrooms serving
the school of nursing.

**MARINE BIOLOGICAL STATION.** This facility occupies forty acres
of beach and timberland at Rosario Beach adjoining Deception Pass State
Park, Anacortes, Washington. The physical plant includes four labora-

ty buildings, a kitchen and assembly hall, shop, and 29 cabins for student
and staff housing.

**PORTLAND ADVENTIST HOSPITAL.** In addition to the College
Place campus, Walla Walla College also utilizes the large plant of Portland
Adventist Hospital, located at Portland, Oregon, where the students in
nursing obtain their clinical practice.
On the Portland campus is a residence hall for unmarried students located across the street from the Portland Adventist Hospital. The nurses' home has a large parlor, sitting room, a modern kitchen, and laundry facilities to provide for comfortable living in homelike surroundings. The nurses' home also contains classrooms and a library.

**SITTNER HALL.** Erected in 1947 and expanded in 1960, Sittner Hall accommodates approximately 500 resident men. There are lounges, a recreation room and new health club facilities.

**SMITH HALL.** The department of education is housed in a three-story building which was completed in 1965. It contains classrooms, laboratory, curriculum library, a lecture hall, an audio-visual and instructional materials center and offices for the department.

**STUDENT HEALTH SERVICE.** A student health service with a full-time registered nurse as director is maintained on the campus. Clinical and hospital facilities, consultation rooms, treatment rooms, and other necessary facilities are available for student use. Several physicians maintain regular office hours in the student health service.

**TAUSICK MEMORIAL POOL.** A new standard-sized swimming pool with a diving bell, completed in 1965, is in daily operation and serves as an instructional and recreational center for the college students.

**WHITMAN LODGE.** A men's residence hall adjoining the College campus which accommodates 45 junior and senior men.

**HOUSING FOR STUDENTS**

**APARTMENTS.** The College owns 50 units of one- and two-bedroom apartments which are available for married students. These apartments rent for reasonable amounts. There are also apartments in the community, furnished and unfurnished, in which married students may live. For information, write to the director of purchasing.

**RESIDENCE HALLS.** All unmarried students are required to live in one of the college residence halls and to board in the college cafeteria, unless they live with their parents or with other close relatives in the immediate community. Under special circumstances, students may make application to the Student Affairs Committee for permission to live off the campus in an officially approved home. Such applications are filed with the office of student affairs and will be processed only at the beginning of a quarter. Failure to secure official approval to reside in the community or to withdraw from a college residence hall will invalidate the registration of the student. Students who have received approval for off-campus living may be called into the college residence halls at any time.

**STUDENT ORGANIZATIONS**

**ASSOCIATED STUDENTS.** The Associated Students is an organization whose membership consists of all faculty members and regularly enrolled students. The association has for its object the promotion of Walla Walla College ideals and activities. The two official publications of the associated students are *The Collegian*, the weekly newspaper of the College, and the *Mountain Ash*, the yearbook.
Residence Clubs

Dormitory women; Aleph Gimel Ain (AGA)
Dormitory men; Omicron Pi Sigma (OPS)
Single village women; Chiquita Sola (CS)
Single village men; Aurora Duxes (AD)
Married Students; Epsilon Mu Sigma (EMS)

Departmental Clubs

Amateur Radio Club
American Institute of Physics, WWC Chapter
Beta Mu (Home Economics)
Biology Club
Business Administration Club
Chemistry Club
Delta Rho Theta (Speech)
Der Deutsche Verein (German)
Engineering Club
Grammateis Club (Office Administration)
Gymkhana Club (Physical Education)
Industrial Education and Technology Club
International Relations Club (History)
Le Cercle Francais (French)
Mathematics Club
Music Guild
Pegasus Club (English)
Sociology Club
Students National Education Association
Theology Club
GENERAL REGULATIONS

_IN all matters pertaining to personal conduct, students are expected to act as responsible citizens and members of a Christian community conducted in accord with the ideals of the Seventh-day Adventist church. The college welcomes to its school family any individual, regardless of religious persuasion, race, color or sex, who wishes to obtain a quality education in an environment which is maintained in accord with these ideals. Those who do not out of personal conviction seek this type of educational environment are urged not to apply for admission. Any student whose activities interfere with the preservation of the college's unique character may be required to withdraw.

On registration each student is required to pledge willful support of all regulations set forth in this bulletin, the Student Handbook, or as officially announced during the school year. Applicants who are unfamiliar with the College should carefully read the Student Handbook before coming to the campus for registration.

RELIGIOUS ACTIVITIES

ASSEMBLY. Assemblies, held twice weekly, are regarded as a vital part of the total education program at Walla Walla College, and all students are required to attend.

SABBATH OBSERVANCE. The seventh-day Sabbath is observed at Walla Walla College from sunset Friday to sunset Saturday, and all students are expected to conduct themselves in harmony with the sacred nature of the day. This includes attendance at the Friday evening devotional service, as well as Sabbath school and church service on Sabbath morning.

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Walla Walla College sponsors several organizations and activities which aid in training the students for Christian service.

CHURCH AND SABBATH SCHOOL. The Walla Walla College Church with a membership of approximately 1,490 provides opportunities for group worship and offers training in missionary endeavor and church organization.

The Sabbath School provides leadership training and teaching experiences for college students who wish to develop their abilities in religious education.

MISSIONARY VOLUNTEER SOCIETY. The Missionary Volunteer Society is a student-operated organization that promotes religious understanding and activity. Besides providing Friday evening programs, typical activities include: maintaining contact with servicemen, providing tutors for labor camps, arranging a variety of Sabbath afternoon service projects, conducting weekend lecture series, and sponsoring student missionaries.

PRAYER BANDS. The prayer bands under student leadership encourage the prayer life of the students. These groups meet regularly and foster the spiritual life of the individuals who participate.
ACADEMIC INFORMATION

ADMISSION PROCEDURE

Formal application for admission to the College is required on a form supplied through the admissions and records office. A recent photograph and a $10 fee must be included. The chief factors considered by the Admissions Committee are good character, scholastic achievement, financial support, and good health. After the applicant's record of previous work and recommendations have been received by the College and approved by the Admissions Committee, prompt notification of acceptance is sent.

Applications should be made as early as possible prior to the quarter in which study is to commence. All records become the property of the College.

Transcripts, applications and other credentials submitted for admission will be destroyed after two years if the applicants do not enroll in the college.

LETTER OF ACCEPTANCE. Under no condition should an applicant consider himself accepted until he has received an official letter of acceptance. Applicants ought not to plan on residence or work on the campus until they have been formally accepted.

ROOM DEPOSIT. As soon after acceptance as possible, applicants should send a room deposit of $50 to the business office. This will guarantee a room for the year. This fee is refundable any time until August 1 of each year. See section on Financial Information.

OFFICIAL TRANSCRIPT. While a student may receive tentative acceptance on the basis of an unofficial transcript, no one will be permitted to complete registration unless there is an official transcript in the registrar's office.

MEDICAL EXAMINATION

The health services of the College are in charge of a registered nurse who functions under the direction of the college physician. In order that this service may be as meaningful as possible and in order that the most efficient aid can be given in the cases of illness and accidents, it is required that all new students present a certificate of a recent physical examination. Approved forms are available in the registrar's office.
ADMISSION TO THE FRESHMAN CLASS

Applicants for admission to the freshman class shall have been graduated from a recognized four-year secondary school. Applicants with special admissions problems may request the Admissions Committee for individual consideration. All students with normal high school backgrounds must present the following basic requirements for admission:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>1</td>
</tr>
<tr>
<td>Science</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics</td>
<td>1-3*</td>
</tr>
</tbody>
</table>

Applicants should note that certain major areas of study require specific subjects prior to admission to that curriculum. See below, "Entrance Requirements for the Curriculums," for the removal of deficiencies.

Two units of a foreign language, two units of social studies, and two units of science are highly recommended.

*One unit: Algebra or Geometry

Art
Associate Degree Programs
Biblical Languages
Business Education
Communication Media
English
French
German
History
Home Economics (Algebra recommended)
Industrial Education and Technology

Journalism
Music
Office Administration
Also certificate program
Physical Education
Psychology
Religion
Spanish
Speech Communication
Speech Pathology and Audiology
Theology

*Two units: Algebra and Geometry (one unit each)

Biology
Business Administration
Chemistry
Dental Hygiene
Elementary Education

Foods and Nutrition
Mathematics
Medical Technology
Nursing
Sociology

*Three units: Algebra, Plane Geometry, Solid Geometry, Trigonometry, or their equivalents.

Biophysics
Engineering
Physics

ENTRANCE REQUIREMENTS FOR THE CURRICULUMS. Certain specific subjects are required for admission to the various curriculums or courses of study in the College. Applicants who are deficient in one or two subjects required for entrance to their chosen curriculum will be required to present high school credit to cover the deficiency or successfully complete a waiver examination by the end of the first year of registration in that curriculum. Students who have not removed deficiencies by the end of the first year must take additional college course work in the area of their deficiency.

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ADMISSION BY EXAMINATION. Mature persons who have not completed secondary school or who are unable to furnish transcript of credits may be admitted to freshman standing through examination as required or administered by the Admissions Committee. Students so admitted are not granted regular admission until they demonstrate ability to maintain a satisfactory scholarship record.

SPECIAL ADMISSION. Mature individuals ineligible for regular admission may be admitted as special students, and may register for any course for which they have sufficient background. Special students are not eligible for a degree; however, by completing requirements for regular admission they may become degree candidates.

TRANSIENT ADMISSION. Students who have been in residence at other institutions of higher learning and who are not candidates for a degree from this College may be classified as transients. The category includes those who wish to transfer limited credit to other institutions and those registering for certain adult education courses. The transient student must show evidence that he is in good and regular standing at the university or college to which the credits are to be transferred.

FRESHMAN ORIENTATION. During the first week of the autumn quarter all entering freshmen are required to attend the orientation program. Counseling and instruction concerning study skills, registration, and college regulations are given. Several tests designed to guide students in planning individual programs are also administered.

ADMISSION TO ADVANCED STANDING

TRANSFER. Applicants who have attended other institutions of higher education may be admitted to advanced standing by submitting complete official transcripts of all credits embodying a statement of honorable dismissal. Failure to indicate that work has been taken at other institutions at the time of application invalidates any admission.

Students transferring from nonaccredited institutions are given conditional status with tentative credit for previous work as evaluated by the vice president for academic affairs and/or the registrar. If the student maintains a C average or above on a full course load for one year, he may be given regular status with such credits for advanced standing as the transcript evaluation warrants. Failure to meet this standard will delay or prohibit graduation.

A transfer student with senior standing must be in residence three quarters and must complete a minimum of 36 credits including nine credits of upper-division work in the major and three upper-division credits in the minor.

ADVANCED PLACEMENT. Students who present advanced placement credits from courses completed in secondary schools will receive commensurate college credit for these, provided they have been validated by the CEEB examination with passing scores of 5, 4 or 3.

TRANSFER CREDIT

Once a student has completed 96 quarter credits, no additional credits may be transferred from a community or junior college.
CLASSIFICATION OF STUDENTS

FRESHMAN. Applicants for admission to the College who fulfill the entrance requirements for their chosen course of study are listed as freshmen.

SOPHOMORE. Students who have met the entrance requirements of their chosen course of study and who have a minimum of 36 credits with a grade-point average of at least 2.00 are listed as sophomores.

JUNIOR. Students who have a minimum of 84 credits with a grade-point average of at least 2.00, who can complete degree requirements by the end of the following school year, and who have been approved by the Registrar are eligible for junior class membership.

SENIOR. Students with a minimum of 136 credits with a grade-point average of at least 2.00 and who can complete all degree requirements during the current school year are eligible for senior class membership.

GRADUATE. The College offers courses leading to the Master of Arts and the Master of Education degrees with majors in biology and education. For further information concerning graduate courses and degree requirements, see the Graduate Bulletin.

AUDITOR. A student may audit certain courses with permission of the instructor involved. No credit is allowed for an audited course. Students wishing to audit courses must register in the usual manner and are charged full tuition.

REGISTRATION

The regular academic year is divided into three periods or quarters. The summer session is regarded as the fourth quarter.

All students are required to register on designated days at the beginning of the academic year and prior to the beginning of each quarter. Registration is not official until all procedures required by the registrar have been completed and all fees have been paid. Faculty advisers are available to assist freshman students with registration and in the planning of academic programs.

CHANGES IN REGISTRATION

Changes in registration, approved by the adviser, may be made during the first week of instruction without charge. No changes involving other courses are permitted after this time without the permission of the adviser and instructor involved. A charge of $1 for each course changed is made after the first week of instruction. Courses may not be added after the second week of any quarter.

WITHDRAWALS. Students withdrawing from college or individual courses must file an official drop voucher with the registrar's office. Withdrawal slips must be signed by the adviser and the instructor involved. The final date for dropping a class is the Wednesday prior to test week.
Students withdrawing from all classes during the quarter will receive W's. Students guilty of misrepresentation in course work and/or examinations forfeit withdrawal privileges at the discretion of the teacher and the department involved.

**LATE REGISTRATION.** Students who register after the designated registration periods are charged a late registration fee of $15. Students may not register after the second week of a quarter without permission of the vice president for academic affairs and the instructors involved. Late registrants may expect a reduction in course load.

**EXPLANATION OF CREDITS**

A credit usually represents one class meeting a week or three hours of laboratory work a week for the duration of the quarter. Thus, a three-credit class would meet three times each week. For each "quarter credit" of school work earned a student is expected to spend two clock hours a week in outside preparation or three hours a week in supervised study or laboratory work.

**STUDY LOAD**

The normal load is 16 credits per quarter. Sophomores, juniors, and seniors may request to register for 18 credits if their grade-point average for the previous quarter was 3.00 (B). In general, the full study load for graduate students is 12 quarter credits. Undergraduate students on scholastic probation ordinarily should carry a reduced course load.

Students in college residence halls must register for a minimum of 12 credits.

The following study loads will satisfy the authorities indicated:

1. Immigration Authorities..................12 quarter credits
2. Social Security..........................12
3. Veterans.................................12

**DUAL REGISTRATION**

Students registered at Walla Walla College are not permitted to enroll for courses in neighboring colleges without permission. Concurrent enrollment must have the approval of the vice president for academic affairs.

**COURSE NUMBERING**

The course numbering sequence is designed to reflect in varying degrees a progression in course content, level of approach and breadth of coverage. The course description further delineates specific course content progression. This information provided by the course number and description should serve as a general guide to the student in selecting courses compatible with his own background and ability.

**HYPHENATED NUMBERS**

Course numbers connected with hyphens indicate courses which ordinarily carry credit only when completed in their entirety. Uncompleted hyphenated courses do not carry credit toward completion of any course or degree unless by permission of the chairman of the department and the Academic Standards Committee.
LOWER-DIVISION

Course numbers 1 to 99 designate non-transferable courses carrying college credit but not applying toward a degree or teacher certification. Course numbers 100 to 299 designate college courses which assume a limited background.

UPPER-DIVISION

Course numbers 300 to 499 designate courses which require one or more college prerequisites, presume a broad background, or necessitate an advanced level of study.

GRADUATE

Course numbers 500 to 599 designate fifth-year college courses, the graduate level.

ADMISSION TO UPPER-DIVISION AND GRADUATE COURSES

In view of the course gradation reflected in the numbering system, a student should plan to take courses numbered 300 or 400 only after he has earned 84 credits and completed basic degree requirements. However, a sophomore who has completed 48 credits may register for upper-division courses with the permission of his department chairman and the instructor of the course.

Seniors whose programs for graduation have been approved and who otherwise meet the admission requirements of the Graduate Division may be permitted to take graduate courses if their programs will allow it.

For admission to the graduate program, students should consult the Graduate Bulletin.

GRADING SYSTEM

The quality of student effort is measured by a system of grades and by computed grade-point averages. Each grade is assigned a numerical value in points. A report of grades earned is made to both students and parents at the end of each quarter. The following system of grades and point values is used:

- A—exceptional
- B—above average
- C—average
- D—below average
- F—failure

4 grade points per credit

3
2
1
0

Other symbols used are as follows: S, satisfactory; U, unsatisfactory; W, withdrawal; I, incomplete; and Au, audit course. The I is given in case of incomplete work due to justifiable causes and must be made up three weeks before the close of the following quarter; otherwise the instructor records an F grade. This regulation also applies to students who discontinue college. Permission to receive an incomplete must be obtained from the instructor. A student with an incomplete should adjust his course load the following quarter so that the work may be completed without jeopardizing scholarship in other classes.
GRADE-POINT AVERAGE. The grade-point average is computed by totaling the grade points for all courses and dividing by the total credits for which grades are received. Only the last grade of a repeated course will be calculated in the grade-point average. The symbols S, U, I, W, and Au are disregarded in computing the grade-point average.

ERRORS AND CORRECTIONS. Grade cards are issued at the close of each quarter. Upon the receipt of a grade card, the student should carefully check it for correctness as to the courses recorded, credits, and grades. Any corrections needed must be taken care of within one week. No change in the permanent record will be made after two weeks following the issuance of the grade card.

REPEAT COURSES. Students may repeat only courses in which grades lower than a C have been received. This repeat work must be taken in regularly offered class. Challenge examinations, independent or directed study arrangements are not allowed for repeat course work. Repeat credits for which an F has been received must be completed in residence unless permission to do otherwise is granted by the Academic Standards Committee. Only the last grade will be included in the calculation of the grade-point average.

SCHOLASTIC PROBATION. A student who fails to make satisfactory progress toward graduation will be placed on scholastic probation. A quarter of cumulative grade-point average below 2.00 (C) is considered unsatisfactory and will bring the student's record under review by the vice president for academic affairs. Students whose cumulative grade-point average falls below C (2.00) are automatically placed on scholastic probation, and they remain so classified until the overall grade-point average is again 2.00 or better.

HONORS

HONOR ROLL. Students with a grade-point average of 3.50 or above, who are registered for at least 15 credits, are listed on the official honor roll issued each quarter.

GRADUATION WITH HONORS. Candidates for the baccalaureate degree with a minimum grade-point average of 3.50 may be awarded the degree with honors, cum laude.

CLASS REGULATIONS

Students are not officially registered for a course until the instructor has been informed by the registrar's office. The student is responsible for punctual and regular attendance at all classes for which he is registered. It will be recognized that missing instruction for any reason may jeopardize the class standing and course grade. Students will not be permitted to register for two classes which meet concurrently.
ADVENTIST COLLEGES ABROAD

Walla Walla College, together with nine other Adventist colleges in the United States, has formed an organization for the purpose of providing opportunities for qualified students to study abroad. Presently, arrangements have been made for students to study a full year at Séminaire Adventiste, Collonges, France; Seminar Marienhöhe, Darmstadt, Germany; Colegio Adventista del Plata, Entre Rios, Argentina; Seminario Adventista Español, Valencia, Spain; and at Bogenhofen Seminary near Braunau, Austria. Credits will be granted for these studies so that a student will be able to complete almost a full college year abroad. It is recommended that students desiring a year abroad make these plans for the sophomore year. Write to the director, admissions and records, for information.

CORRESPONDENCE WORK

The College will accept a maximum of 24 quarter credits of approved courses by correspondence toward a degree. Correspondence work will not meet upper-division requirements, nor can a student who has failed a course make this up by correspondence study. Students must obtain approval from their major department chairman in order to carry correspondence work while in college. Correspondence work may not apply on a major unless approved by the department chairman concerned. Correspondence deadline for June graduates is May 15; for August graduates, July 15.

Under certain conditions, students whose scholarship has fallen too low for continuation in the degree program may be readmitted after having completed and having earned satisfactory grades in approved correspondence courses.

The Home Study Institute, Washington, D.C., is a member of the Seventh-day Adventist school system in the United States, and while we recommend this correspondence school, students may take correspondence from any accredited correspondence school. Ask the registrar for information.

EXTENSION COURSES

Extension courses are accepted provided the institution offering the courses accepts similar credits toward a degree on its own campus.

VOCATIONAL AND TECHNICAL PROGRAMS

In addition to the regular bachelor's degree program, an associate degree program is offered in the specialties of secretarial, secretarial accounting, and medical secretarial; also automotive technology, electronics technology, graphics, and maintenance technology.

Associate degree transfer students must be in residence three quarters and must complete a minimum of 36 credits.

Two-year certificate programs not leading to a degree are also offered in the same seven areas mentioned above.

For information on these programs, write to the registrar.
CHALLENGE EXAMINATIONS AND WAIVERS

By special permission of the department chairman and the course instructor, a student currently registered in the College may be permitted to receive credit by examination for work in which credentials cannot be supplied. Challenge examinations are permitted any time prior to the final quarter of college study. The regular tuition rate is charged for academic credit earned in this manner, and the special examination fee of $5 is charged for each test prepared by a college instructor. The grades earned, even when unsatisfactory, will be recorded and computed in the grade-point average.

Courses in which a student has earned an F are not open to challenge examinations.

Requests for any waiver of curricular requirements are to be filed with the Academic Standards Committee.

SPECIAL EXAMINATIONS

All students are expected to take final examinations as scheduled. Special administrations are arranged by petition to the office of the vice president for academic affairs three weeks prior to the close of the quarter. If approved, a special fee of $5 for each examination is assessed.

TRANSCRIPTS

One transcript of a student's record is supplied without charge. A fee of $1 per transcript is charged thereafter. Credits are not accepted or recorded after a student has ceased residence in the College.
DEGREE REQUIREMENTS

The College offers courses of study leading to the following degrees:

- Associate of Arts
- Associate of Science
- Bachelor of Arts
- Bachelor of Science
- Bachelor of Music
- Bachelor of Science in Business Administration
- Bachelor of Science in Engineering
- Master of Arts
- Master of Education

Candidates for degrees are expected to be fully informed concerning degree requirements and are responsible for their fulfillment. A student shall have the option of meeting degree requirements as published in the bulletin at the time of initial registration or any bulletin published while in regular attendance. Those not in regular attendance for one full school year must meet the requirements of the current bulletin upon resuming attendance. Students taking double majors must meet all the degree requirements for both majors, including the basic requirements.

GRADUATE DEGREES

The College offers courses of study leading toward the Master of Arts and Master of Education degrees. Master's degree programs are offered in the department of biology and in the department of education and psychology. Students desiring information concerning graduate degree requirements should consult the Graduate Bulletin.

GENERAL DEGREE REQUIREMENTS

All candidates for baccalaureate degrees must complete a minimum of 192 credits including 60 credits in courses numbered 300 or above, and have a cumulative grade-point average of 2.00 (C) or above.

MAJOR AND MINOR STUDY. A minimum of 45 credits in a major and 27 credits in a minor or completion of the prescribed requirements of certain curriculums is required. A student may not apply the same courses toward the requirements of both his major and minor. The following degrees and majors do not require a minor: the Bachelor of Music, Bachelor of Science in Business Administration, the Bachelor of Science in Engineering; the Bachelor of Science with majors in biophysics, business education, dental hygiene, and nursing.

The major should be chosen no later than the end of the sophomore year. The selection of a minor and appropriate electives should be made in counsel with the major professor or faculty adviser.
A grade lower than C (2.00) in a course may not apply on a major or minor except in engineering (see the section “Engineering”). At least 21 credits in the major and 3 credits in the minor must be in courses numbered 300 or above. The maximum allowed on a major for the Bachelor of Arts degree is 60 credits unless the excess is beyond the 192 credits required for the degree, except for the music major which is 66 quarter credits.

Majors are available in the following areas:

- Applied Music
- Journalism
- Art
- Mathematics
- Biblical Languages
- Medical Technology
- Biology
- Music Education
- Biophysics
- Music Performance
- Business Administration
- Music Theory
- Business Education
- Nursing
- Chemistry
- Office Administration
- Communication Media
- Physical Education
- Dental Hygiene
- Physics
- Elementary Education
- Psychology
- Engineering
- Religion
- English
- Sociology
- Foods and Nutrition
- Spanish
- French
- Speech Communication
- German
- Speech Pathology and Audiology
- History
- Theology
- Home Economics
- Industrial Education and Technology

Minors are available in the following areas:

- Agriculture
- Journalism
- Art
- Library Science
- Biblical Languages
- Mathematics
- Biology
- Music
- Business Administration
- Office Administration
- Chemistry
- Physical Education
- Economics
- Physics
- English
- Political Science
- French
- Psychology
- German
- Religion
- Health Education
- Sociology
- History
- Spanish
- Home Economics
- Speech Communication
- Industrial Education and Technology

**COMPREHENSIVE EXAMINATION.** Satisfactory completion of the Undergraduate Record Examinations—aptitude, areas, and field test—is required before a degree may be conferred. Departments will provide comparable examinations when a field test is not available. Students who do not satisfactorily complete the examination in the major field may not attempt another examination until one quarter has elapsed. Industrial education and technology majors will submit an appropriate project and/or report approved by the department chairman.
Residence. Transfer students must be in residence three consecutive quarters and complete a minimum of 36 credits, including 9 upper-division credits in the major and 3 upper-division in the minor.

Other degree candidates must be in residence the last three quarters preceding their graduation.

CANDIDACY FOR DEGREE. Degree candidates must file a copy of the proposed schedule of courses for the senior year and a formal application for a degree with the registrar not later than one week after the beginning of the third quarter preceding graduation. Appropriate forms may be obtained from the registrar’s office. Students are not considered candidates for degrees or eligible for senior class membership until officially notified by the registrar.

Candidates for degrees must be members of the senior class. The fee fixed by the class and approved by the president of the College must be paid not later than March 5 in order for candidates to be eligible for graduation.

Seniors must have all unfinished correspondence work and/or incompletes completed by May 15 in order to graduate with the June class. Summer seniors must have all unfinished correspondence work and/or incompletes completed by July 15 in order to graduate with the August class.

BACHELOR OF ARTS DEGREE: BASIC REQUIREMENTS

Candidates for the Bachelor of Arts degree must meet certain general education requirements which are to provide a basic understanding of those areas of knowledge common to the liberal arts. The pattern of courses required depends upon the secondary school background and the major chosen. The areas and the specific requirements are as follows:

HUMANITIES

English 101-102-103 or 104-105. 9

Fine Arts, Literature, Speech. Students must complete a basic course in two of the following areas, as indicated. 12

Fine Arts: (6)
201, 202, 203 Introduction to Music
207, 208, 209ND Arts and Ideas
221, 222, 223 Appreciation of Art
321, 322, 323 History of Art

Literature: (6)
224, 225, 226 American Literature
244, 245, 246 English Literature
251, 252, 253 World Literature

Speech:* (4)
101-102 Fundamentals of Speech

*If the speech sequence is selected, the remaining two hours needed to make a total of 12 credits for the fine arts-literature-speech block, may be taken from:

Fine arts listed above
Literature listed above
Any other speech course
Language. The number of credits required depends upon the amount of language completed in secondary school and the major chosen.

Majors in the following must complete 9-21 credits:

Chemistry  Language  Religion
Communication Media  Mathematics  Sociology
English  Music  Speech Communication
History  Physics  Theology
Journalism

Students who have completed two years of one language in the secondary school will complete nine credits of the same language in college. Those who have had no language in the secondary school will complete both the first and second year of the same language in college. Music majors must complete French or German. Majors in chemistry should choose French or German. Majors in theology must choose Greek for their language requirement. Majors in religion may choose Greek or a modern language.

Majors in the following must complete 0-12 credits:

Art
Business Administration
Home Economics

No language is required of students who have had two units of one language in secondary school. Those who have had no language previously must complete 12 credits.

NATURAL SCIENCE AND MATHEMATICS

Completion of a basic course in one of the following areas: astronomy, biological science, chemistry, physics, or mathematics.

SOCIAL SCIENCE

Education, Psychology. Philosophy of Christian Education (2 credits) and General Psychology (4 credits) are required.

History. Completion of either History 101, 102, 103 or 201, 202, 203.

Religion. Students who submit two or more units of Bible will complete 18 credits in college. Students who have completed less than two units of Bible and those transferring from non-Seventh-day Adventist colleges will take 2 credits each quarter in college. It is recommended that students with fewer than two units of religion complete 101, 102, 103 - Bible Survey.

To satisfy the 18-24 basic religion requirements, at least 9 credits must be selected from the courses listed under Biblical Studies on pp. 181-182. The remaining credits may be selected from courses listed under Biblical Studies, Christian Philosophy, or Archaeology and Religious History on pp. 181-184.
PHYSICAL EDUCATION

Physical Education. Physical education is required of all students under 30 years of age. The courses needed to fulfill this requirement are listed as service courses in the department of physical education. Veterans who have completed basic training are exempt from physical education upon presentation of their discharge papers to the registrar.

BACHELOR OF SCIENCE DEGREE: BASIC REQUIREMENTS

Candidates for the Bachelor of Science degree are required to complete certain general education requirements and usually a greater concentration of courses in their major and cognate areas. The general education requirements are as follows:

HUMANITIES

English 101-102-103 or 104-105.  

Fine Arts, Literature, Speech. Students must complete a basic course in two of the following areas, as indicated.  

Fine Arts: (6)
- 201, 202, 203 Introduction to Music
- 207, 208, 209ND Arts and Ideas
- 221, 222, 223 Appreciation of Art
- 321, 322, 323 History of Art

Literature: (6)
- 224, 225, 226 American Literature
- 244, 245, 246 English Literature
- 251, 252, 253 World Literature

Speech:  
101-102 Fundamentals of Speech  
*If the speech sequence is selected, the remaining two hours needed to make a total of 12 credits for the fine arts-literature-speech block, may be taken from:
- Fine arts listed above
- Literature listed above
- Any other speech course

Language. The number of credits required depends upon the amount of language completed in secondary school and the major chosen.  

Majors in the following must complete 9-21 credits:

Biology  
Mathematics  
Students who have completed two years of one language in the secondary school will complete nine credits of the same language in college. Those who have had no language in the secondary school will complete both the first and second year of the same language in college.

Majors in chemistry must complete credits in German or French  
No language is required of students who have completed two units in one of these languages on the high school level.
No language is required for the following majors:

- Biophysics
- Business Administration
- Business Education
- Dental Hygiene
- Elementary Education
- Foods and Nutrition
- Industrial Education
- and Technology
- Medical Technology
- Medical Technology—Clinical Chemistry (double major)
- Nursing
- Office Administration
- Physical Education
- Physics
- Psychology
- Speech Pathology and Audiology

NATURAL SCIENCE AND MATHEMATICS

Completion of a basic course in one of the following areas: astronomy, biological science, chemistry, physics or mathematics.

SOCIAL SCIENCE

- Education, Psychology. Philosophy of Christian Education (2 credits) and General Psychology (4 credits) are required.
- History. Completion of either History 101, 102, 103 or 201, 202, 203 is required.
- Religion. Students who submit two or more units of Bible from an academy will complete 18 credits in college. Students who have completed less than two units of Bible and those transferring from non-Seventh-day Adventist colleges will take 2 credits each quarter in college. It is recommended that students with fewer than two units of religion complete 101, 102, 103 - Bible Survey.

To satisfy the 18-24 basic religion requirements, at least 9 credits must be selected from the courses listed under Biblical Studies on pp. 181-182. The remaining credits may be selected from courses listed under Biblical Studies, Christian Philosophy, or Archaeology and Religious History on pp. 181-184.

PHYSICAL EDUCATION

Physical Education. Physical education is required of all students under 30 years of age. The courses needed to fulfill this requirement are listed as service courses in the department of physical education. Veterans who have completed basic training are exempt from physical education upon presentation of their discharge papers to the registrar.

BACHELOR OF MUSIC

Students wishing to receive the Bachelor of Music degree must follow the curriculum as outlined under the department of music. The physical education and religion requirements are the same as for other baccalaureate degrees.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

Students wishing to receive the Bachelor of Science in Business Administration degree must follow the curriculum as outlined under the department of business.
BACHELOR OF SCIENCE IN ENGINEERING

Students wishing to receive the Bachelor of Science in Engineering degree must follow the curriculum outlined under the department of engineering.

SECOND BACHELOR'S DEGREE

Two different degrees may be conferred at the same time if the candidate has met the requirements of both degrees, and has completed a total of 237 credits. The College does not grant two degrees of the same kind to any one person, such as two B.A.'s or two M.A.'s. Students may, however, earn a second degree after one degree has been conferred, either by Walla Walla College or any other baccalaureate-degree-granting institution, by completing an additional 45 quarter credits, meeting the basic degree requirements of both degrees, and the requirements of a second major and a second minor if required for the desired degree.

MUSIC CREDIT ALLOWED ON DEGREES

Students who are not majoring or minoring in music may use 9 credits of applied music, including 3 credits in ensemble, in meeting degree requirements. A maximum of 8 additional credits in applied music (including music ensembles) may also be counted, but 1 credit of music coursework must be completed for each additional credit of applied music.

GRADUATION

Degrees are conferred twice each year, June and August. Candidates for degrees are required to be present for graduation. The president may grant permission for graduation in absentia when all requirements have been met and circumstances warrant this. A fee is required for graduation in absentia.
PREPROFESSIONAL COURSES OF STUDY

The College offers courses which are prerequisite for admission to professional or technical schools. Students wishing to secure admission to such schools should familiarize themselves with the admission requirements of the school of their choice. Most preprofessional curriculums require 2 units of high school mathematics (algebra and geometry). Preprofessional courses of study are offered for the professions hereinafter listed.

DENTAL

Adviser: Mr. Chinn

The minimum requirement for admission to the study of dentistry is 96 quarter credits. However, most dental schools expect candidates for admission to have completed three to four years of college. Loma Linda University requires a minimum grade-point average of 2.50. The following courses are basic:

- Freshman Composition 9
- Religion 6 per year
- Mathematics 8
- General Biology or Zoology 12
- General Chemistry 12
- General Physics 12
- Organic Chemistry 12
- Developmental Biology 5
- Survey of Industrial Operations 4
- Sufficient electives to complete 96 credits.

DENTAL ASSISTANT

Adviser: Mr. Grable

The minimum requirement for admission to the study of dental assistantship is 48 credits from a liberal arts college. The following courses are to be included:

*Accounting or Bookkeeping 6
*Beginning Typewriting 6
Biology 4-12
Freshman Composition 9
General Psychology 4
Government 3
*Introductory Chemistry 9
Religion 6
Sociology 3
Speech 4
U.S. History 9

*Or high school credits. At least two of these areas should be taken on the secondary level to be able to complete the program in one year.
DENTAL HYGIENE

Adviser: Mr. Grable

Students planning for careers in dental hygiene must complete 96 credits with a cumulative grade-point average of 2.50 or above before seeking admission to the various dental hygiene programs. Some schools require that electives include a foreign language. Other schools require the advanced First Aid Certificate; check with adviser.

Dental Hygiene Curriculum—Cooperative Program, Walla Walla College and University of Oregon

A minimum grade-point average of 3.00 is required for competition at the University of Oregon.

**Freshman Year (on Walla Walla College Campus)**

<table>
<thead>
<tr>
<th>Course</th>
<th>3</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Freshman Composition</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Religion</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>General Biology</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Introductory Chemistry</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>General Psychology</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Philosophy of Christian Education</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fundamentals of Speech</td>
<td>15</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Physical Education</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Sophomore and junior years at the University of Oregon Dental School: courses as required.

**Senior Year (on Walla Walla College Campus)**

<table>
<thead>
<tr>
<th>Course</th>
<th>4</th>
<th>4</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Fine Arts or Literature</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>History of the U.S.</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Electives (Non-science)</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

The Bachelor of Science degree is awarded by Walla Walla College.

One school year of residency beyond the freshman year must be taken in the WWC campus.

**Loma Linda University**

Experience has indicated that a minimum average of 3.00 is needed to compete for admission to the program at Loma Linda University. The following credits are required in preparation for advanced studies there:

<table>
<thead>
<tr>
<th>Course</th>
<th>9</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>General Biology</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Microbiology</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Introductory Chemistry</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Religion</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>U.S. History</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>General Psychology</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>General Sociology</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Electives to be chosen in counsel</td>
<td>26</td>
<td>26</td>
</tr>
</tbody>
</table>

The Bachelor of Science degree is awarded by Loma Linda University.
LAW

Adviser: Mr. Joice

While most law schools require the bachelor's degree for admission, they do not require any specific courses as prerequisite for entrance; some require Principles of Accounting. Courses which tend to develop skills in the English language and ability to reason and think analytically are highly recommended. Students planning to study law should consult with the pre-law adviser to make sure that the courses taken in college will meet the requirements of the law school which they plan to attend.

MEDICAL

Adviser: Mr. Jones

Most medical schools require completion of 192 credits with a grade-point average of 2.50 or above, computed separately for science and non-science courses. The following credits are normally required:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>9</td>
</tr>
<tr>
<td>General Biology</td>
<td>12</td>
</tr>
<tr>
<td>General Chemistry</td>
<td>12</td>
</tr>
<tr>
<td>Organic Chemistry</td>
<td>9-12</td>
</tr>
<tr>
<td>Physics</td>
<td>12</td>
</tr>
<tr>
<td>Religion</td>
<td>18</td>
</tr>
</tbody>
</table>

Calculus strongly recommended.

If applying to a medical school other than Loma Linda University, it is recommended the following courses also be included:

- Developmental Biology
- Quantitative Analysis
- Physical Chemistry
- Foreign Language

MEDICAL TECHNOLOGY

Adviser: Mr. Chambers

Students wishing to become medical technologists may complete the first three years at the College and transfer to the Portland Adventist Hospital or other approved hospitals for the fourth year. Students should make application to the Portland Adventist Hospital during the summer following the second year, or as soon thereafter as possible. Candidates who plan to go to hospitals other than the Portland Adventist Hospital must submit their request to the Academic Standards Committee for approval if they wish to obtain a degree from Walla Walla College. Upon completion of the fourth year, the student may receive a Bachelor of Science degree. The following courses must be completed:

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 161-162-163</td>
<td>12</td>
</tr>
<tr>
<td>Education 110</td>
<td>2</td>
</tr>
<tr>
<td>Education 121, 122</td>
<td>4</td>
</tr>
<tr>
<td>English 101-102-103</td>
<td>9</td>
</tr>
<tr>
<td>Mathematics 121, 122</td>
<td>8</td>
</tr>
<tr>
<td>Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>Religion</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 244</td>
<td>4</td>
</tr>
<tr>
<td>Biological Sciences 101, 102, 103</td>
<td>12</td>
</tr>
<tr>
<td>History 101, 102, 103 or 201, 202, 203</td>
<td>9</td>
</tr>
<tr>
<td>Physics 211, 212, 213 and 214, 215, 216</td>
<td>12</td>
</tr>
<tr>
<td>Religion</td>
<td>6</td>
</tr>
<tr>
<td>Fine Arts, Literature, Speech</td>
<td>6</td>
</tr>
</tbody>
</table>
Third Year

Biological Sciences 222 or 465  5
Biological Sciences 202, 203 or 392, 393  8-10
Chemistry 321-322-323  12
Chemistry 406  4
Fine Arts, Literature, Speech  6
Religion (UD)  6
Electives (UD)  6-11

Fourth Year

The clinical year is 12 months at the Portland Adventist Hospital or at another approved hospital during which time there is no tuition charge.

Students majoring in medical technology must meet all degree and general educational requirements. During the pre-clinical experience the student must complete 144 credits, including 30 upper-division credits.

Students wishing a double major in medical technology and clinical chemistry should refer to the chemistry section of the bulletin.

NURSING

Advisers: Miss Leazer, Mrs. Johnson

For details about courses, etc., in nursing, please see Nursing, School of. Candidates who plan to enter other schools should write to the director of the nursing school of their choice and ask for specific requirements.

OCCUPATIONAL THERAPY

Adviser: Mr. Winter

Students who are preparing for the Bachelor of Science degree in occupational therapy should plan to complete 96 quarter credits before entering the professional training. The following curriculum is recommended:

- Biological Sciences 12
- Chemistry, or Physics or Mathematics 12
- Freshman Composition 9
- Social Science 12
  - To include sociology, psychology; additional courses may be selected from economics, history or political science
- Physical Education 3
- Humanities 12
  - To include speech and one or more of the following: fine arts (3 credits of applied music may be included), humanities, language, literature and philosophy
- Religion 12
- Electives 24
  - To meet the minimum of 96 credits. Courses in art and behavioral sciences are recommended.

More than 30 institutions of higher learning accredited by the Council on Medical Education and Hospitals of the American Medical Association offer training in occupational therapy. Loma Linda University is generally chosen by Walla Walla College students.
OPTOMETRY

Two years of college preparation are the minimum required for admission to most optometry schools, and this is generally followed by four years of training for the Doctor of Optometry degree. In some cases the Bachelor of Science degree may also be awarded by the optometry school.

The preprofessional curriculum should include as a minimum the following courses:

- Freshman Composition  9
- Fundamentals of Mathematics  8
- General Biology  12
- General Chemistry  12
- General Physics  4
- General Psychology

It is important that the mathematics be taken in the first year, and it is highly recommended that the first quarter of calculus be taken also.

It is important that the student obtain a catalog from each college of optometry he may wish to enter, since these schools differ widely in their recommendations of other courses for the pre-optometry program. Competition for admission to some optometry schools is enough that the student would do well to expect a third year of college (and advanced courses in chemistry and biology) unless he makes a very strong academic record.

PHARMACY

At least two years of general college work are required. Students should consult with the college of pharmacy of their choice about courses required. The following should be included:

- Bacteriology  5
- Botany  3
- Freshman Composition  9
- General Physics  12
- Health Science  2
- General Chemistry  12
- Mathematics  8
- Organic Chemistry  10
- Physical Education  2
- Physiology  5
- Psychology  6
- Quantitative Chemistry  5
- U. S. History  9
- Zoology  9

All pharmaceutical colleges require three years in residency beyond the two years of pre-pharmacy; some require four years.

PHYSICAL THERAPY

The minimum requirement is the completion of 96 credits. The student should consult the adviser for pre-physical therapy. The credit hour requirements in the areas indicated below must be met.

- Freshman English  9
- Humanities  12

Select from at least two fields:
- fine arts (3 quarter credits of applied music or arts may be included), language, literature, philosophy or speech (highly recommended)
Natural Sciences and Mathematics

General Biology 12
Chemistry (a complete course with laboratory) 9-12
Physics (a course with laboratory is required, in addition, of students not having had high school physics) 6

Physical Education 3

Social Science 12
To include sociology, general psychology, history (minimum 4 credits). Additional courses may be selected from economics or political science

Religion 12

Electives 18-21
To meet the minimum of 96 credits. Courses in art and behavioral sciences are recommended.

VETERINARY SCIENCE  Adviser: Mr. Rigby

There are approximately 18 colleges of veterinary science in the United States. Since the basic requirements are not exactly the same, the student should confer with the college of his choice. The following will generally meet the preprofessional requirements:

Biology 17-25
General Biology 12
*Microbiology or Bacteriology 5
Electives 8

Chemistry 24-28
General Chemistry 12
Organic Chemistry 12
*Biochemistry 4

Physics 12
General Physics 12

Mathematics 8-12
Fundamentals of Mathematics 8
*Calculus I 4

Freshman Composition 6-9
Humanities and Social Sciences 15-20
Physical Education 0-4

*X not required by certain schools

X-RAY TECHNOLOGY  Adviser: Mr. Barnett

Forty-five credits are required for admission to most schools of X-ray technology. College courses should be chosen to remove high school deficiencies in mathematics and science, if such exist. Courses such as anatomy and physiology, chemistry, general psychology, general physics, and mathematics should be taken, and, whenever possible, typing. Inquiry should be made of the school to be attended for specific entrance requirements.

51
DEPARTMENTS
OF INSTRUCTION

This section contains a list of all courses offered in the College. The departments are arranged in alphabetical order.

Courses numbered 100-199 are normally taken by freshmen; those from 200-299 are normally taken by sophomores; those from 300-499 by juniors and seniors; and those 500 and above by graduate students.

The description of courses in each department includes: (1) the number of the course as used in the College records; (2) the title of the course; (3) a brief description of course content; (4) the number of credits given; (5) the quarter in which it is given.

The College will make every effort to consistently offer all courses at appropriate intervals as designated in this bulletin. It does reserve the right, however, to alter the sequences or drop courses if unforeseen circumstances in class enrollments, teacher staffing, etc., so dictate. The "Class Schedule" is probably the more reliable guide for personal planning of course loads and schedules.

The credit indicated in connection with each course is the "quarter credit," and one credit represents one recitation period per week for one quarter. The number of credits listed is for each quarter.

Two or three numbers connected with hyphens indicate courses which must be completed in their entirety. Only upon permission of the chairman of the department and the Academic Standards Committee may credit be obtained for a single quarter of study in a hyphenated course.

The College reserves the right to withdraw temporarily any course which does not have an adequate enrollment. A course may not be offered for fewer than six students except in the case of seniors or graduate students.
ART

R. MacKintosh, Chairman; C. McCulley

The aim of the department is to cultivate an awareness, appreciation, and understanding of the various forms of visual experience. Through instruction and practice, the student will develop his creative abilities for practical usage by following either the Fine Arts or Commercial Arts options. The Commercial Arts option is designed to develop skills in working with the printed word and visual communication. The Fine Arts option will prepare the student as an artist or as a teacher.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Design</td>
<td>161-162-163 9</td>
</tr>
<tr>
<td>*Drawing</td>
<td>181-182-183 6</td>
</tr>
<tr>
<td>Introduction to Painting</td>
<td>191, 192, 193 6</td>
</tr>
<tr>
<td>*Appreciation of Art</td>
<td>221, 222, 223 6</td>
</tr>
<tr>
<td>Introduction to Printmaking</td>
<td>281, 282, 283 6</td>
</tr>
<tr>
<td>*History of Art</td>
<td>321, 322, 323 6</td>
</tr>
</tbody>
</table>

Total: 39

Option A—Fine Arts

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sculpture</td>
<td>261 or 262 or 263 2</td>
</tr>
<tr>
<td>Fine Arts Design</td>
<td>301, 302, 303 9</td>
</tr>
<tr>
<td>Commercial Art</td>
<td>204, 205, 206</td>
</tr>
<tr>
<td>Advanced Drawing</td>
<td>307-308, 309</td>
</tr>
<tr>
<td>Printmaking</td>
<td>311, 312, 313 10</td>
</tr>
<tr>
<td>Painting</td>
<td>331, 332, 333</td>
</tr>
<tr>
<td>Advanced Sculpture</td>
<td>361-362-363</td>
</tr>
<tr>
<td>Filmmaking</td>
<td>371-372-373</td>
</tr>
</tbody>
</table>

Or

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Art</td>
<td>204, 205, 206 6</td>
</tr>
<tr>
<td>Advertising Design</td>
<td>314, 315, 316 9</td>
</tr>
<tr>
<td>Advanced Drawing</td>
<td>307-308</td>
</tr>
<tr>
<td>Printmaking</td>
<td>311, 312, 313 6</td>
</tr>
<tr>
<td>Filmmaking</td>
<td>371-372-373</td>
</tr>
</tbody>
</table>

Total: 21

Option B—Commercial Art

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Art</td>
<td>204, 205, 206 6</td>
</tr>
<tr>
<td>Advertising Design</td>
<td>314, 315, 316 9</td>
</tr>
<tr>
<td>Advanced Drawing</td>
<td>307-308</td>
</tr>
<tr>
<td>Printmaking</td>
<td>311, 312, 313 6</td>
</tr>
<tr>
<td>Filmmaking</td>
<td>371-372-373</td>
</tr>
</tbody>
</table>

Total: 21

Required Cognates:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Ideas</td>
<td>Non-Dept. 207, 208, 209 6</td>
</tr>
<tr>
<td>Prin. of Photo. (option B)</td>
<td>Ind.Ed. 161 2</td>
</tr>
<tr>
<td>Applied Photo. (option B)</td>
<td>Ind.Ed. 362 3</td>
</tr>
<tr>
<td>Contemporary Phil. (option A)</td>
<td>Theo. 423 2</td>
</tr>
<tr>
<td>Biblical Archaeology (option A)</td>
<td>Theo. 445 2</td>
</tr>
</tbody>
</table>

MINOR REQUIREMENTS IN ART:

*To meet the minor requirements, the student will choose at least 33 credits from the core requirements; asterisked (*) courses are required.
COURSES

161-162-163. DESIGN. An intensified study of the basic elements of design aiming to develop cognizance of visual organization. Three credits; autumn, winter, spring.

181-182-183. DRAWING. An experience in the use of line with representational and nonfigurative approaches through application to still life and portraiture. Two credits; autumn, winter, spring.

191, 192, 193. INTRODUCTION TO PAINTING. A first course in painting through various uses of acrylics. Two credits; autumn, winter, spring.

*204, 205, 206. COMMERCIAL ART. An introduction to the various processes and media of commercial art, with emphasis on layout, new directions, and craftsmanship. Two credits; autumn, winter, spring.

221, 222, 223. APPRECIATION OF ART. The class is designed for the liberal arts students who wish to better understand and appreciate the visual arts of painting, sculpture, printmaking and the minor arts. Two credits; autumn, winter, spring.

*261, 262, 263. SCULPTURE. The study and application of three dimensional forms in space using varied media such as plaster, plasticene, and paper. Two credits; autumn, winter, spring.

281, 282, 283. INTRODUCTION TO PRINTMAKING. A beginning course in the art of printmaking, relief method of printmaking—linoleum cut, woodcut, and wood engraving. Two credits; autumn, winter, spring.

301, 302, 303. FINE ARTS DESIGN. Application of the basic principles and elements of design to be used in the fine arts field. Prerequisites: 161-162-163. Three credits; autumn, winter, spring.

*305. ART IN THE ELEMENTARY SCHOOL. Principles of design and exploration of materials appropriate for primary and intermediate grade children. Methods for the intelligent use of art materials for the child of elementary school age. Three credits; winter.

*307-308, 309. ADVANCED DRAWING. A utilization of the basic principles of drawing with various experimental approaches. Prerequisites: 181-182-183. Two credits; autumn, winter, spring.

311, 312, 313. PRINTMAKING. An advanced course in the various processes of intaglio printing, drypoint, engraving, etching. Open to majors and minors only. Prerequisites: 161-162-163 and 281, 282, 283. Two credits; autumn, winter, spring.

*314, 315, 316. ADVERTISING DESIGN. Application of the basic principles and elements of design to be used in the commercial field of art. Prerequisites: 161-162-163. Three credits; autumn, winter, spring.

*321, 322, 323. HISTORY OF ART. The study of the great periods in history of art, their causes and developments; the relation between art and society and the implication of aesthetic understanding in each period. Two credits; autumn, winter, spring.

*Not offered 1972-73.
331, 332, 333. **PAINTING.** To develop the aesthetic enjoyment and understanding in the application of paint, whether the media be oil, casein, or tempera. Prerequisites: 181-182-183, or equivalent. Two credits; autumn, winter, spring.

*361-362-363. **ADVANCED SCULPTURE.** Application of basic three-dimensional principles, using metal, fiberglass, emphasizing experimentation in direction, media and techniques. Prerequisites: 261, 262, 263. Two credits; autumn, winter, spring.

371-372-373. **FILMMAKING.** A course in filmmaking, with emphasis on the creative rather than the technical aspects. A course primarily concerned with the creative use of the movie camera as it relates to composition, thematic organization and experimental directions. Two credits; autumn, winter, spring.

400. **TOPICS IN ART.** The study of advanced topics through class activities. One to three credits per quarter.

*406. **AESTHETICS.** An examination of alternative philosophies for purposes of determining the relation of art to civilization. Two credits; spring.

477, 478, 479. **INDEPENDENT STUDY IN ART.** Individual student projects chosen and carried out under the direction of the chairman of the department. Open to majors and minors only. One to three credits any quarter; maximum, three credits.

*Not offered 1972-73.
BIOLOGICAL SCIENCES

D. Rigby, Chairman; D. Clayton, L. Dickson, C. Forss, A. Grable, L. McCloskey, A. Perry.

The objectives of the department are to develop an understanding of the principles of biology which will better acquaint students with the world in which they live; to create an atmosphere which is conducive to individual investigation; to prepare department majors for graduate and professional education, teaching and certain careers in the biological sciences.

The department offers a Bachelor of Science degree with a major in biology, and jointly with the department of physics, a Bachelor of Science degree with a major in biophysics. Graduate work leading to the Master of Arts degree is also offered. For further information, see the Graduate Bulletin.

Exceptional opportunities for study in the biological sciences are possible during the summer at the Marine Biological Station at Rosario Beach adjoining Deception Pass State Park, Anacortes, Washington. For further information, see the bulletin of the Marine Biological Station.

The Field School of Biology travels to various parts of North America and offers courses in botany and zoology.

**MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:**

<table>
<thead>
<tr>
<th>Major: Biology</th>
<th>101, 102, 103</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetics</td>
<td>261</td>
<td>4</td>
</tr>
<tr>
<td>Developmental Biology</td>
<td>266</td>
<td>4</td>
</tr>
<tr>
<td>Biostatistics</td>
<td>350</td>
<td>4</td>
</tr>
<tr>
<td>Research Methods I, II, III</td>
<td>351, 352, 453</td>
<td>4</td>
</tr>
<tr>
<td>Cell Physiology</td>
<td>392</td>
<td>4</td>
</tr>
<tr>
<td>General Ecology</td>
<td>446</td>
<td>4</td>
</tr>
<tr>
<td>Philosophy of Origins and Speciation</td>
<td>483</td>
<td>3</td>
</tr>
<tr>
<td>Electives, upper-division in biology</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

One course in zoology and one in botany required.

### Colloquium

Required each quarter of juniors and seniors while in residence.

### Required Cognates:

| Fund. of Math. | Math. 121, 122 | 8  |
| Gen. Physics | Phys. 211, 212, 213 | 9  |

214, 215, 216 | 12 |

One summer term at the Marine Biological Station

**Major: Biophysics**

The requirements for the curriculum of biophysics are listed in the department of physics.
MINOR REQUIREMENTS IN BIOLOGY:
A minimum of 27 credits including 8 upper-division credits. Course 101, 102, 103 is required. Four credits must be in botany.

COURSES

101, 102, 103. GENERAL BIOLOGY. A study of the basic principles of biology. Topics such as anatomy, physiology, cytology, genetics, taxonomy, ecology, and embryology are considered with reference to both plants and animals. One laboratory per week. Four credits.

202, 203. ANATOMY, PHYSIOLOGY. A survey of human anatomy and physiology is given. Health principles will be integrated in this course. One laboratory per week. Will not apply on biology major or minor. Five credits.

222. MICROBIOLOGY. The nature of bacteria and disease-producing organisms with their habits and methods of reproduction and the relation of these organisms to disease in the human body are studied. One laboratory per week. Will not apply on biology major. Five credits.

261. GENETICS. A study of the principles of inheritance in plants and animals. One laboratory per week. Prerequisites: 101, 102, 103. Four credits.

266. DEVELOPMENTAL BIOLOGY. Principles of development of plants and animals. Emphasis is placed on problems of growth, differentiation, and morphogenesis. Laboratory work consists of both descriptive and experimental analysis of development. Two laboratories per week. Prerequisite: 101, 102, 103. Four credits.

Course 101, 102, 103 is a prerequisite for all upper-division courses.


351. RESEARCH METHODS I. Discussion of the methods of science, the types of biological literature, sources of biological information and methods of information retrieval. First quarter of a three-quarter sequence required of all majors. One credit.

352. RESEARCH METHODS II. Methods of selection of a research problem, experimental design, and the forms for presentation of data in the scientific paper are discussed. Second quarter of a three-quarter sequence required of all majors. One credit.

360. SURVEY OF THE PLANT KINGDOM. A study of the life histories, internal anatomy and physiology of the various members of the plant kingdom. One laboratory per week. Prerequisite: 103. Four credits.

389. NATURAL HISTORY OF VERTEBRATES. A study of vertebrates with emphasis on natural history, ecology, and taxonomy. One laboratory per week. Four credits.

392. CELL PHYSIOLOGY. An investigation of the chemical and physical phenomena of plant and animal cells. This course will seek to integrate function with the various cellular organelles. One laboratory per week. Prerequisite: 103. Physics and organic chemistry strongly recommended. Four credits.
393. **ANIMAL PHYSIOLOGY.** The study of animal physiology with emphasis on vertebrate organ systems. This course is based on concepts developed in 392. One laboratory per week. Prerequisite: 392. Physics and Organic Chemistry strongly recommended. Four credits.

400. **TOPICS IN BIOLOGY.** The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

401. **PLANT PHYSIOLOGY.** A course designed to cover the principles of physiology of plants in general. One laboratory per week. Prerequisite: 360, 392. Four credits.

403. **ORNITHOLOGY.** A systematic study of native birds of North America, with emphasis on identification, migration, geographical distribution, habits and life histories. Two laboratories per week. Four credits.

405. **GENERAL ENTOMOLOGY.** A study of insect morphology, physiology, ecology, and classification. One laboratory per week. Four credits.

407. **PHILOSOPHY OF SCIENCE.** A study of the scientific method as it relates to primary origins and present-day distributions of living things. Evidences from archeology, the physical and biological sciences are examined. Does not apply on a biology major. Three credits.

412. **PLANT ANATOMY.** A study of the microscopic anatomy of plant tissues with emphasis on their origin and development. Primary attention will be devoted to the vascular plants. Recommended prerequisite: 360. One laboratory per week. Four credits.

420. **COMPARATIVE ANATOMY.** A study of the comparative anatomy of chordates with emphasis on the vertebrates. Dissections of the shark, mudpuppy, turtle, pigeon, and cat are made in the laboratory. Two laboratories per week. Five credits.

424. **HERPETOLOGY.** A systematic study of amphibians and reptiles with emphasis on natural history and ecology. Two laboratories per week. Four credits.

426. **SYSTEMATIC BOTANY.** A study of the principles of plant classification, together with a systematic survey of vascular plants, with emphasis on natural history and ecology. Two laboratories per week. Four credits.

429. **LIMNOLOGY.** A study of the factors responsible for the presence and distribution of animals and plants in fresh waters. Field work includes trips to a number of lakes and streams for collection of living specimens as well as habitat analysis. Four credits.

441. **MICROTOOL.** A course designed to cover the important methods of making microscope slides. Two laboratories per week. Three credits.

444. **MAMMALOLOGY.** A systematic study of mammals with emphasis on natural history and ecology. Two laboratories per week. Four credits.

446. **GENERAL ECOLOGY.** A course designed to cover the basic principles of plant and animal ecology. Field trips to nearby areas illustrating these principles are part of the laboratory work. Two laboratories per week. Four credits.
BIOLOGICAL SCIENCES

447. PARASITOLOGY. A systematic study of the morphology, life cycle, and host-parasite relationships of protozoan, helminth, and arthropod parasites. Two laboratories per week. Five credits.

449. VERTEBRATE HISTOLOGY. The microscopic anatomy of vertebrate cells, tissues and organs including reference to their functions. Two laboratories per week. Four credits.

451. INVERTEBRATE ZOOLOGY. A study of the biology of the invertebrates with emphasis on their ecology, morphology and physiology. Two laboratories per week. Four credits.

453. RESEARCH METHODS III. Methods of writing the scientific paper, oral presentation of the paper and a discussion of the organization of the biological sciences for the communication of results of scientific research are included. Third quarter of a three-quarter sequence required of all majors. Two credits.

462. Ichthyology. A systematic study of the fishes found in Puget Sound, with a survey of the fishes of other waters. Four credits. (WWC Marine Biological Station)

463. Marine Botany. A systematic study of plants found in Puget Sound, with a survey of marine plants from other areas. Four credits. (WWC Marine Biological Station)

464. Animal Behavior. A comparative study of the behavior of animals with emphasis on an experimental analysis of behavior. A research project will be required. Four credits. (WWC Marine Biological Station)

465. Bacteriology. A presentation of the basic principles necessary for an understanding of morphology and function of bacteria. Laboratory work, including unknowns, points out techniques employed in their study. Two laboratories per week. Five credits.

467. Biological Oceanography. A study of physical, chemical and geological effects on marine organisms. Four credits. (WWC Marine Biological Station)

468. Comparative Physiology. A comparative study of the physiology and life processes of animals with emphasis on invertebrates. Prerequisite: 392. Four credits. (WWC Marine Biological Station)

470. Biophysics. An introductory course emphasizing the physical aspects of living organisms studied by the experimental and conceptual methods of physics with application to marine life. Four credits. (WWC Marine Biological Station)

472. Methods of Teaching Biology. This course deals with the basic principles of teaching biology in the secondary school. Observation, demonstration, and class presentation are required of the students as a part of this course. Not applicable to a major or minor. Three credits.

474. Marine Invertebrates. A study of the biology of selected groups of marine invertebrates. Four credits. (WWC Marine Biological Station)

477, 478, 479. Independent Study in Biological Science. Directed study in an approved area. The student will be required to read
widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to majors and minors. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits on the College Place campus. Students may register for up to four credits for research projects done at the WWC Marine Biological Station.

483. PHILOSOPHY OF ORIGINS AND SPECIATION. The various theories on the origin and history of living organisms will be compared in light of present scientific knowledge in the areas of biochemistry, paleontology, morphology, geology, genetics, and other related areas. For majors and minors only. Three credits.

490. TECHNIQUES IN FIELD BIOLOGY. A study of the techniques used in the collection and preservation of biological specimens for museum purposes. Emphasis is placed on the recording and preservation of ecological data obtained with the collections of specimens. The topic for a given year will depend on the instructor offering the course and credit will be given at the rate of one hour credit for each week spent working in the field. One to six credits.

495. COLLOQUIUM. A departmental seminar offered each quarter in which current areas of research are presented by the staff and visiting lecturers. Required of all juniors, seniors and graduate students. No credit.

501. RESEARCH IN BIOLOGY. Individual work in a topic of original research carried out under the direction of one of the instructors. Two to four credits per quarter; maximum, eight credits.

503. GENETICS AND EVOLUTION. A study of the nature and function of the genetic material as it relates to population and species variability and change. Prerequisite: 261. Three credits.

506. MORPHOLOGY OF PLANTS. An advanced study of the type forms of the divisions of the plant kingdom. One laboratory per week. Prerequisite: 360 or permission of the instructor. Four credits.

508. PHYSIOLOGY OF THE ALGAE. A comparative study of the physiology of representative members of the major algal groups. Collection and growth of pure cultures of single-celled forms and related metabolic processes, nutritional factors, light requirements, synchronization and growth will be emphasized. Four credits. (WWC Marine Biological Station)

510. GRADUATE SEMINAR. Presentation of topics and discussion of current research in specific areas of biology. One credit any quarter; three credits required; maximum, five credits.

511. BIOSYSTEMATICS. A study of the process of speciation and its relationship to currently used taxonomic methods and rules of nomenclature. Four credits.

514. SYMBIOSIS. A study of sharply defined associations between organisms. Selected examples of the virus, bacteria, plants and animals are used to illustrate varying degrees of relationships. Prerequisite: Coursework in one group of animals or plants or microbes or parasitology. Chemistry courses through organic are highly recommended. Two laboratories per week. Four credits.
518. SYSTEMATIC ENTOMOLOGY. A study of the principles of classification of insects. Laboratory work emphasizes recognition of orders and families with special problems on the specific level. Prerequisite: course 405 highly recommended. Two laboratories per week. Four credits.

521. PRINCIPLES OF ECONOMIC ENTOMOLOGY. An evaluation of the various methods of controlling economically important species. Prerequisite: 405. Three credits.

522. CELLULAR BIOLOGY. Current knowledge and research in the areas of cell physiology, biochemical genetics, bacteriological genetics, and radiation biology will be considered. Two laboratories per week. Prerequisite: 392, 393. Five credits.

Reading Courses — A maximum of six credits may be selected from Reading Courses.

525. READINGS IN PHYSIOLOGY. Analysis of classical and current literature in the field by means of reports and conferences with staff. Two credits; maximum, four credits.

526. READINGS IN INVERTEBRATE ZOOLOGY. Analysis of classical and current literature in the field by means of reports and conferences with staff. Two credits; maximum, four credits.

527. READINGS IN ENTOMOLOGY. Analysis of classical and current literature in the field by means of reports and conferences with staff. Two credits; maximum, four credits.

528. READINGS IN ECOLOGY. Analysis of classical and current literature in the field by means of reports and conferences with staff. Two credits; maximum, four credits.

529. READINGS IN SYMBIOSIS. Analysis of classical and current literature in the field by means of reports and conferences with staff. Two credits; maximum, four credits.

530. READINGS IN BIOSYSTEMATICS. Analysis of classical and current literature in the field by means of reports and conferences with staff. Two credits; maximum, four credits.

545. THESIS. Preparation of the master's dissertation after successfully carrying out original study with a suitable topic to be selected after consultation with the major professor. Eight credits.
BUSINESS


The courses and programs offered by the department are designed to prepare students for business-related careers with the church, government, and industry.

The objectives of this department are:

1. To provide the student with the basic business skills required for initial job placement.
2. To give the student a broad background of knowledge of the free enterprise system developed through the several disciplines of business.
3. To assist the student in developing a sound Christian philosophy toward our modern political economy and changing business world.
4. To encourage Seventh-day Adventist students to prepare for positions of business leadership and service within organizations sponsored by this denomination.

The department offers a Bachelor of Science in Business Administration degree (BSBA) with opportunity to concentrate in several areas of business. A Bachelor of Arts degree with a major in business administration is also available to the student who wishes a broader liberal arts preparation than that provided by the BSBA. Minors are also available in either business or economics.

Students who plan to teach business subjects at the high school level should follow the Business Education program listed in the department of office administration. Students may emphasize either business or office occupation skills.

In cooperation with the department of education and psychology, a graduate program is offered leading to the Master of Education degree. For further information, see the Graduate Bulletin.

REQUIREMENTS—BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION DEGREE:

Core Requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Principles of Accounting</td>
<td>111, 112, 113 or 115, 116</td>
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<tr>
<td>Introduction to Information</td>
<td>153</td>
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<tr>
<td>Science</td>
<td></td>
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<tr>
<td>Principles of Management</td>
<td>163</td>
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<tr>
<td>Principles of Economics</td>
<td>221, 222, 223</td>
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<tr>
<td>Business Law</td>
<td>341, 342, 343</td>
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<tr>
<td>Marketing</td>
<td>371</td>
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<tr>
<td>Business Finance</td>
<td>331</td>
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<tr>
<td>Business Statistics</td>
<td>444</td>
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<tr>
<td>Seminar</td>
<td>449</td>
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**Major Requirements:**

In addition to the core requirements, 20 hours in either accounting, economics, management, or marketing.

Business Electives

<table>
<thead>
<tr>
<th>Credits</th>
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<tr>
<td>27</td>
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<tr>
<td>96</td>
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Required Cognates:

Typing
Business Machines
Business Com. or
Writing course
Mathematics*
Speech
Political Science and Sociology

Of. Adm. 123 or equivalent
Of. Adm. 262 263
Of. Adm. 352, 353
3-4
12
4
6

*Students concentrating in Information Science are urged to complete Mathematics 283 or equivalent.

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General Requirements:
The same as listed for other Bachelor of Science degree programs, except no minor is required.

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MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

Major: Business Administration

Principles of Accounting
Principles of Economics
Business Law
Seminar
Business Electives* (10 upper-division)

111, 112, 113 or 115, 116
221, 222, 223
341, 342, 343
449
25

9
9
9
2

54

MINOR REQUIREMENTS:

Business

Principles of Accounting
Principles of Economics
Business Electives* (3 upper-division)

111, 112, 113 or 115, 116
221, 222, 223

9
9

9

27

Economics

Principles of Economics
Price Theory
Aggregate Economic Analysis
Electives* (3 upper-division)

221, 222, 223
321
322

9
4
4
10

27

*To be selected in conference with the department chairman.

ACCOUNTING

111, 112, 113. PRINCIPLES OF ACCOUNTING. A study of accounting concepts and procedures required in the accumulation and presentation of data needed by management for decision making. Must be taken in sequence. Three credits each quarter.

115, 116. PRINCIPLES OF ACCOUNTING. A study of accounting concepts and procedures required in the accumulation and presentation of data needed by management for decision making. Must be taken in sequence. Five credits; four credits.
211, 212, 213. INTERMEDIATE ACCOUNTING. A study of the construction, analysis, and interpretation of financial statements and reports prepared from accounting records. Basic accounting procedures employed in balance sheet evaluation and determination of profit. Prerequisite: 113 or 116. Three credits each quarter.


315. FEDERAL INCOME TAX. A study of tax regulations and accounting records necessary to facilitate proper tax accounting and reporting for individuals, partnerships, and corporations. Four credits.

411. ADVANCED ACCOUNTING. The premises and constituent parts of financial statements in the light of contemporary accounting practices. Theory of income, problems of asset and equity valuation. Prerequisite: 213. Four credits. Offered odd years.

412. CPA REVIEW. A comprehensive review of problems found in the accounting practice and auditing sections of the CPA examinations. Prerequisite: 411 or permission of instructor. Four credits.

413. ACCOUNTING THEORY. A comprehensive review of literature pertaining to accounting theory and problems developing such theoretical concepts. Materials are utilized to prepare the student for the theory section of the CPA examination. Prerequisite: 213. Four credits. Offered odd years.

414. FUND ACCOUNTING. A study of the application of fund accounting principles to various governmental entities, school, hospital, and church accounting systems. Prerequisite: 113 or 116. Four credits. Offered odd years.

419. AUDITING PROCEDURES. Public accounting practice including such topics as ethics, auditing standards and techniques, internal control, advisory services, computer system techniques, audit working papers, and legal liability. Prerequisites: Eight hours of accounting beyond 213. Four credits. Offered odd years.

ECONOMICS

221, 222, 223. PRINCIPLES OF ECONOMICS. A study of the organization, operation, and control of the American economy and of the principles and analytical concepts pertaining thereto. Must be taken in sequence. Three credits each quarter.

321. PRICE THEORY. A study of the structure of markets, the determination of prices, the relations of price and cost, income and its functional distribution in a capitalistic economy. Prerequisite: 223. Four credits. Offered odd years.

322. AGGREGATE ECONOMIC ANALYSIS. Analysis of the determinants of the aggregate level of employment, output, and income of an economy. Prerequisite: 223. Four credits. Offered odd years.

323. ECONOMIC HISTORY OF THE UNITED STATES. A comprehensive study of the economic development of the United States from the colonial period to the present. Four credits. Offered odd years.
421. **MONEY AND BANKING.** A study of the functional activities of the institutions which comprise our financial system; emphasizing the nature and functions of money, credit, and banking. Prerequisite: 223. Four credits. Offered even years.

422. **COMPARATIVE ECONOMIC SYSTEMS.** Compares the operation of modern capitalistic, socialistic, and communistic systems as they respond to economic problems. Prerequisite: 223. Four credits. Offered even years.

423. **ECONOMICS OF FOREIGN TRADE.** Examines the role of trade in world development and stability. Develops the principles of trade and foreign exchange; considers the effects of tariffs and other trade policies; describes international organizations dealing with trade and exports. Prerequisite: 223. Four credits. Offered odd years.

427. **DEVELOPMENT OF ECONOMIC THOUGHT.** A study of the history of economic doctrine, tracing the origins of contemporary economic theory. Prerequisites: 321 and 322. Four credits. Offered odd years.

429. **BUSINESS CYCLES.** A study of the business cycle including analysis of cycle theories, appraisal of proposals for controlling cycles, and forecasting techniques. Prerequisites: 321 and 322. Four credits. Offered even years.

**FINANCE**

131. **PERSONAL FINANCE.** A course designed to provide an individual with the techniques to manage his personal finances more efficiently. Two credits.

321. **BUSINESS FINANCE.** A study of the fundamental principles of financial policy in the organization and management of corporate enterprises. Prerequisites: 113 and 223. Four credits.

431. **INVESTMENTS.** A study of the principles making sound investments in the securities markets, managing investment portfolios, evaluating securities, the function of the spectator, the hedging operation and the valuation of market risks. Four credits. Offered even years.

432. **CREDIT ADMINISTRATION.** A study of loan and collection problems from the viewpoint of the credit administrator. Four credits. Offered even years.

435. **PUBLIC FINANCE.** Governmental expenditures, taxation, public debt and public financial administration; public policies on expenditures, taxation and debt management and their relation to business fluctuations. Prerequisites: 113 and 223. Four credits. Offered even years.

**GENERAL BUSINESS**

341, 342, 343. **BUSINESS LAW.** Fundamentals of law which affect business transactions. Emphasis on contracts, agencies, negotiable instruments, landlord and tenant relationship, personal property, and corporations. Three credits each quarter.

344. **PRINCIPLES OF INSURANCE.** A study of insurance contracts, underwriting organizations, and insurance representation and procedures. Four credits. Offered even years.

346. **REAL ESTATE.** A survey course in the basic principles and problems of real estate management and appraisal. Four credits.
BUSINESS

400. TOPICS IN BUSINESS. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

444. BUSINESS STATISTICS. Methods of collecting, analyzing and presenting statistical data; probability and sampling distributions, techniques of sampling, Bayesian and classical decision theory, hypothesis testing, correlation and regression, index numbers, and time series analysis. Prerequisites: 12 hours of mathematics and 40 hours of business. Four credits.

449. SEMINAR. A course in orientation, research, problems, and trends in business and economics. Students will do independent study and research. A formal paper is required. Open only to students majoring in the department. To be taken during senior year. Two credits.

477, 478, 479. INDEPENDENT STUDY IN BUSINESS. Directed independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to majors or minors. Permission from the department chairman required. One to three credits any quarter; maximum, three credits.

INFORMATION SCIENCE

153. INTRODUCTION TO INFORMATION SCIENCE. The essential characteristics, applications, and design of a data processing system. A review of punched card data processing system, computer hardware development, computer arithmetic, ethical and legal considerations relating to the data bank. Four credits.

251. PROGRAMMING FOR BUSINESS I. Principles of analyzing and solving practical business programming problems applicable to any computer or language; emphasis on standard flow charts peculiar to the problems commonly encountered in business situations; functional use of one programming language; experience in the use of a computer. Prerequisite: 153. Two credits.

252. PROGRAMMING FOR BUSINESS II. Programming of business problems in a language or languages not covered in Programming for Business I; emphasis on program writing, documentation, testing, and debugging. Prerequisite: 153. Two credits.

253. PROGRAMMING FOR BUSINESS III. Additional languages and applications not covered in previous programming courses; advanced problems peculiar to the various disciplines in the fields of business and the social sciences. Prerequisite: 153. Two credits.

240 Off. Adm. IBM KEY PUNCH. See department of office administration. One credit.

218 Engr. COMPUTER SCIENCE I. See department of engineering. Two credits.

220 Engr. COMPUTER SCIENCE II. See department of engineering. Two credits.

226 Engr. COMPUTER SCIENCE III. See department of engineering. One credit.

424 Engr. ANALOG COMPUTER PROGRAMMING. See department of engineering. One credit.
163. PRINCIPLES OF MANAGEMENT. A study of the functions of management in terms of administrative organization, planning, and control. The course deals with the setting of business objectives and policies, how executives make decisions, and the problems that arise in the delegating of authority and responsibility. Four credits.

261. PERSONNEL MANAGEMENT. A study of the problems of employee procurement, training, motivation, job evaluation, wage administration, employee benefits, and negotiating with labor unions. Prerequisite: 163. Four credits.

361. JOB ANALYSIS. Techniques and practice in analyzing requirements of various types of work positions and writing descriptions needed by the personnel department. Prerequisite: 163. Two credits. Offered odd years.

362. SUPERVISION. The theory and practice of work-group supervision with emphasis on small-group dynamics and the supervisor's leadership role. Appraisal interviewing, on-the-job training, individual counseling, employee development, conference leadership and employee-management relations. Prerequisite: 163. Two credits. Offered odd years.

462. MANAGEMENT OF MEDICAL INSTITUTIONS. Management problems and procedures peculiar to hospitals, nursing homes, and convalescent centers. Prerequisites: 113, 223, 163. Two credits. Offered even years.

463. HUMAN RELATIONS IN MANAGEMENT. A survey of the human relations problems found in various types of organizations. Prerequisite: 163. Four credits. Offered odd years.

464. MANAGEMENT OF SCHOOL INDUSTRIES. A study of the various management problems peculiar to the operation of industrial enterprises affiliated with Seventh-day Adventist educational institutions. Prerequisites: 113, 223, 163 and permission of instructor. Two credits. Offered even years.

465. MANAGEMENT OF THE PHYSICAL PLANT. A survey of the various management problems confronting the director of the physical plant in an educational or medical institution. Prerequisite: 163 and permission of instructor. Two credits. Offered even years.

466. BUSINESS POLICIES. An integration of various subject areas in terms of policy-level decision making. The duties and responsibilities of top management in establishing policies, objectives and future plans for business organizations. Prerequisites: 163 and 40 hours of business core requirements. Two credits. Offered even years.

467. DENOMINATIONAL POLICY. A survey of the various types of policies of the Seventh-day Adventist Church organization as found in the Working Policies of the General Conference. Prerequisite: Permission of the instructor. Two credits. Offered even years.

447hec. INSTITUTIONAL FOOD PURCHASING. See department of home economics. Three credits.
INSTITUTION MANAGEMENT. See department of home economics. Three credits.

MARKETING

371. MARKETING. A study of the nature and operation of the market structure. Methods of marketing agricultural products, raw materials, and manufactured goods. Attention is given to marketing functions, institutions, and costs. Prerequisites: 113, 223. Four credits.

372. PRINCIPLES OF ADVERTISING. The principles, functions, forms, and techniques of advertising. Advertising media, personnel, and institutions. Persuasive mass communications in marketing and including problem analysis and solution planning, budgeting, research, the use of media, and creative techniques. Prerequisite: 371. Four credits. Offered odd years.

373. SELLING AND SALES MANAGEMENT. Basic principles in selling, selling techniques, and sales management. Development of sales manuals and effective sales presentation methods, controlling the sales force. Four credits. Offered odd years.

471. PUBLIC RELATIONS. The broad field of public relations as a promotional activity of the firm; analysis of the techniques used to create and maintain goodwill. Four credits. Offered even years.

472. PURCHASING. All phases of governmental, industrial, and institutional purchasing including organization procedures, price policies, value analysis, legal aspects and newer approaches to purchasing systems using data processing and PERT control. Four credits. Offered even years.

473. RETAIL STORE OPERATION AND MANAGEMENT. A study of the various types of retail institutions and their role in the distribution system. Problems of planning and control as they apply to the retail store. Special attention given to Book and Bible House operation and school bookstores. Prerequisite: 371. Four credits. Offered even years.

BUSINESS TEACHER EDUCATION

Admission to these courses is granted by the department chairman to those students who have demonstrated by course completion or successful teaching experience they can profit from these advanced courses. These courses will be offered only during the summer quarter.

490. SEMINAR IN BUSINESS EDUCATION. An in-depth study of a specific topic pertinent to business education. Topics will be different each time the course is offered. Topics may include such subjects as: consumer economic education, school and community relations, tests and measurements in business education, or audio-visual aids for use in business education. Two credits.

491. WORKSHOP IN BUSINESS TEACHER EDUCATION. A study of a major problem or area of business education in terms of plans, procedures, materials, research, and individual projects. Techniques and methods are studied and practiced which are designed to improve instructional competency. Two credits.
492. BUSINESS EDUCATION CURRICULUM OF THE SECONDARY SCHOOL. Planning and procedures in curriculum development and revision. Analysis of various types of instructional aids, courses of study, and text materials. Two credits.

494. PRINCIPLES, PROBLEMS, AND TRENDS IN BUSINESS EDUCATION. A study of the problems, trends, and recent developments in business education. Two credits.

204, 205, 206Art. COMMERCIAL ART. See department of art. Two credits each quarter.

314, 315, 316Art. ADVERTISING DESIGN. See department of art. Three credits each quarter.
CHEMISTRY

C. Jones, Chairman; J. Chambers, C. Chinn

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

General Chemistry 161-162-163 12
Elementary Quantitative Analysis 244, 245-246 10
Elementary Organic Chemistry 321-322-323 12
Physical Chemistry 351, 352, 353 12
Electives 2

48

Any minor may be chosen. The following courses are also required:
Physics 201, 202, 203 and 204, 205, 206; or 211, 212, 213 and 214, 215, 216
Mathematics 181, 281.

MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:

Major: Chemistry

General Chemistry 161-162-163 12
Elementary Quantitative Analysis 244, 245-246 10
Elementary Organic Chemistry 321-322-323 12
Physical Chemistry 351, 352, 353 12
Independent Study 477, 478, 479 1-3
Electives 16

63-65

Minors in both mathematics and physics are recommended. Regardless of the minor, the following are required:

Engineering 218
Mathematics 181, 281, 282, 283
Physics 201, 202, 203 and 204, 205, 206; or 211, 212, 213 and 214, 215, 216

Major: Clinical Chemistry and Medical Technology (double major)

General Chemistry 161-162-163 12
Elementary Quantitative Analysis 244, 245-246 10
Elementary Organic Chemistry 321-322-323 12
Physical Chemistry 351-352-353 12
General Biology Bio. 101, 102, 103 12
Microbiology Bio. 222

or

Bacteriology Bio. 465
Anatomy, Physiology Bio. 202, 203

or

Cell Physiology and Bio. 392 8-10
Animal Physiology Bio. 393
CHEMISTRY

Fund. of Mathematics I, II Math. 121, 122 8
Calculus I, II Math. 181, 261 8
General Physics Phys. 211, 212, 213 9
General Physics Laboratory Phys. 214, 215, 216 3
Clinical Courses (12 months at an approved hospital) 48

147-149

Candidates for this degree must meet all basic graduation requirements with the exception of language.

MINOR REQUIREMENTS IN CHEMISTRY:
A minimum of 27 credits including three upper-division credits.

COURSES

101-102-103. INTRODUCTORY CHEMISTRY I. An introductory course in chemistry covering the fields of inorganic, organic, and biochemistry. Does not apply on a major or minor. Two lectures, one laboratory per week. Three credits; autumn, winter, spring.

161-162-163. GENERAL CHEMISTRY. The structure and states of matter; atomic and molecular theory, including valency, and periodicity and bonding; solutions and equilibria, stoichiometry, kinetics and thermodynamics, and the descriptive chemistry of metals and non-metals. Prerequisite or corequisite: Mathematics 121, 122. Three lectures and one laboratory per week. Four credits; autumn, winter, spring.

244, 245-246. ELEMENTARY QUANTITATIVE ANALYSIS. Fundamental principles and laboratory practices in both gravimetric and volumetric analysis are presented in 244. The remaining time is spent on ionic equilibrium and simple instrumental methods of analysis. Prerequisite: 163; 244 is prerequisite for 245-246; Mathematics 121. Three lectures, one laboratory per week autumn; two lectures, one laboratory per week winter and spring. Four credits; autumn. Three credits; winter, spring.

271. INTRODUCTORY CHEMISTRY II. This course is a continuation of 101-102-103, emphasizing organic and biochemistry. Will not apply on major or minor. Three lectures per week. Three credits; winter.

321-322-323. ELEMENTARY ORGANIC CHEMISTRY. A study of the preparation, reaction, and constitution of the aliphatic and aromatic compounds of carbon. Prerequisite: 161-162-163. Three lectures and one laboratory per week. Four credits; autumn, winter, spring.

351, 352, 353. PHYSICAL CHEMISTRY. An introductory course in thermodynamics, kinetics, quantum chemistry, spectroscopy, structure, electrochemistry and radiochemistry. Laboratory includes experiments on the various physical properties of matter, including electronics and computer techniques. Prerequisite: 244, 245-246, Physics 201, 202, 203 or 211, 212, 213 and Mathematics 121, 122, 181, 281, or permission from the instructor. Three lectures, one laboratory per week. Four credits; autumn, winter, spring.

400. TOPICS IN CHEMISTRY. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

406, 407. BIOCHEMISTRY. A study of the chemistry of foods, digestion and body metabolism. Prerequisite: 321-322-323. The spring quarter,
406 consists of three lectures and one laboratory per week; it is prerequisite to the autumn course, 407, which is three lectures per week and no laboratory. Four credits, spring; three credits, autumn.

427, 428. ADVANCED ORGANIC CHEMISTRY. A study of the current theories in the field of aliphatic and aromatic chemistry. Prerequisite: 321-322-323. Two credits; autumn, winter.

442, 443. ADVANCED INORGANIC CHEMISTRY. A review of the modern theories of chemistry, including selected topics such as nuclear chemistry, coordination chemistry, synthetic inorganic chemistry and instrumentation. Prerequisite: 161-162-163. Two credits; winter, spring.

452, 453. SPECIAL TOPICS IN PHYSICAL CHEMISTRY. Taught under the supervision of Washington State University. Two credits; winter, spring.

461, 463. ADVANCED ANALYTICAL CHEMISTRY. A study of instrumental methods of analysis. One lecture, two laboratory periods per week. Prerequisite 246. Three credits; autumn, spring.

471. METHODS OF TEACHING CHEMISTRY. Methods, materials and techniques of teaching chemistry on the secondary school level. Observation, demonstration and class presentation are required of the students as part of this course. Will not apply on a major or minor. Three credits; winter.

477, 478, 479. INDEPENDENT STUDY IN CHEMISTRY. Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to majors and minors. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits.
COMMUNICATIONS


The programs of the department are directed toward the objectives of preparing students to become articulate Christian communicators, and to provide basic preparation for those interested in communications-related professions. Toward those ends the department offers a minor in general speech communication and three majors.

The first major is speech communication. It emphasizes public, small group, and interpersonal communication. It is designed for the student intending to teach oral communication, or is used as an adjunct to other preparations in which interpersonal and public speech communication skills are particularly important.

The second major, communication media, is offered through the cooperation of a number of departments whose courses include mass communication areas. It trains, primarily, those interested in broadcasting, audio-visual production, and promotional work. The communication media major also provides a preprofessional foundation which enables students to take advanced work in a communications area including public relations.

The third major is speech pathology and audiology. It trains students toward the goal of becoming speech and hearing therapists. The curriculum is considered primarily preprofessional in that it provides the undergraduate foundation on which graduate work may be taken to more fully qualify the student to meet certification requirements held in most states and at the national professional level.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

<table>
<thead>
<tr>
<th>Major: Speech Communication</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamentals of Speech Comm.</td>
<td>101-102</td>
<td>4</td>
</tr>
<tr>
<td>Voice and Articulation</td>
<td>107</td>
<td>2</td>
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<tr>
<td>Small Group Communication</td>
<td>207</td>
<td>2</td>
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<tr>
<td>Survey of Speech Pathology and Audiology</td>
<td>210</td>
<td>3</td>
</tr>
<tr>
<td>Oral Interpretation</td>
<td>211</td>
<td>2</td>
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<tr>
<td>Broadcast Tech. &amp; Ann.</td>
<td>231</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
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<tr>
<td>Survey of Broadcasting</td>
<td>352</td>
<td>3</td>
</tr>
<tr>
<td>Phonetics</td>
<td>274</td>
<td>3</td>
</tr>
<tr>
<td>Speech and Hearing Science</td>
<td>291</td>
<td>3</td>
</tr>
<tr>
<td>Play Direction</td>
<td>365</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Public Address</td>
<td>323</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persuasive Speaking</td>
<td>443</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhetoric and Public Address</td>
<td>453</td>
<td>2</td>
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<tr>
<td>Introduction to General Semantics</td>
<td>401</td>
<td>2</td>
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<tr>
<td>Electives may include:</td>
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<td></td>
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<tr>
<td>Journalism</td>
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<tr>
<td>English</td>
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<td>19</td>
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## COMMUNICATIONS

**Major: Communication Media**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Fundamentals of Speech Comm.</td>
<td>101-102</td>
</tr>
<tr>
<td>Intro. to Graphic Arts</td>
<td>IT&amp;T. 144, 145-146</td>
</tr>
<tr>
<td>Principles of Photography</td>
<td>IE&amp;T. 161</td>
</tr>
<tr>
<td>Newswriting</td>
<td>Jour. 164-165-166</td>
</tr>
<tr>
<td>Design</td>
<td>Art 161-162-163</td>
</tr>
<tr>
<td><strong>or</strong></td>
<td></td>
</tr>
<tr>
<td>Commercial Art</td>
<td>Art 204, 205, 206</td>
</tr>
<tr>
<td>Broadcast Tech. &amp; Ann.</td>
<td>231</td>
</tr>
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<td><strong>or</strong></td>
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<tr>
<td>Survey of Broadcasting</td>
<td>352</td>
</tr>
<tr>
<td>Mass Communication Media</td>
<td>Jour. 326</td>
</tr>
<tr>
<td>Intro. to General Semantics</td>
<td>401</td>
</tr>
<tr>
<td>Persuasive Speaking</td>
<td>443</td>
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<tr>
<td>Seminar in Communication Media</td>
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<td>231</td>
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<tr>
<td><strong>Survey of Broadcasting</strong></td>
<td>352</td>
</tr>
<tr>
<td><strong>Communication Theory</strong></td>
<td>275</td>
</tr>
<tr>
<td><strong>Advanced Writing</strong></td>
<td>Eng. 280</td>
</tr>
<tr>
<td><strong>or</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Creative Writing</strong></td>
<td>Eng. 385, 386</td>
</tr>
<tr>
<td><strong>or</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Magazine Article Writing</strong></td>
<td>Jour. 341, 342, 343</td>
</tr>
<tr>
<td><strong>Applied Photography</strong></td>
<td>IE&amp;T. 382</td>
</tr>
<tr>
<td><strong>Public Relations</strong></td>
<td>Jour. 363</td>
</tr>
<tr>
<td><strong>or</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Public Relations</strong></td>
<td>Bus. 471</td>
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<tr>
<td><strong>Instruct. Aids—Production</strong></td>
<td>Ed. 462</td>
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<tr>
<td><strong>Filmmaking</strong></td>
<td>Art 371-372-373</td>
</tr>
<tr>
<td><strong>Social Psychology</strong></td>
<td>Psych. 444</td>
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<tr>
<td><strong>or</strong></td>
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</tr>
<tr>
<td><strong>General Sociology</strong></td>
<td>Soc. 204</td>
</tr>
<tr>
<td><strong>Principles of Advertising</strong></td>
<td>Bus. 372</td>
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<tr>
<td><strong>Electives chosen from:</strong></td>
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</tr>
<tr>
<td><strong>Broadcast Tech. &amp; Ann.</strong></td>
<td>231</td>
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<tr>
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<td><strong>General Sociology</strong></td>
<td>Soc. 204</td>
</tr>
<tr>
<td><strong>Principles of Advertising</strong></td>
<td>Bus. 372</td>
</tr>
</tbody>
</table>

**Electives chosen from:**

- Broadcast Tech. & Ann. 231
- Survey of Broadcasting 352
- Communication Theory 275
- Advanced Writing Eng. 280
- Creative Writing Eng. 385, 386
- Magazine Article Writing Jour. 341, 342, 343
- Applied Photography IE&T. 382
- Public Relations Jour. 363
- Public Relations Bus. 471
- Instruct. Aids—Production Ed. 462
- Filmmaking Art 371-372-373
- Social Psychology Psych. 444
- General Sociology Soc. 204
- Principles of Advertising Bus. 372

**MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:**

**Major: Speech Pathology and Audiology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Required Credits</th>
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<tbody>
<tr>
<td>Fundamentals of Speech Comm.</td>
<td>101-102</td>
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<tr>
<td>Survey of Speech Pathology and Audiology</td>
<td>210</td>
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<td>Phonetics</td>
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<td>Speech and Hearing Science</td>
<td>291</td>
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<tr>
<td>Oral Language Development</td>
<td>299</td>
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<tr>
<td>Applied Phonetics</td>
<td>343</td>
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<tr>
<td>Basic Audiology</td>
<td>384</td>
</tr>
<tr>
<td>Non-Organic Voice and Articulation Problems</td>
<td>385</td>
</tr>
<tr>
<td>Organic Speech Pathologies</td>
<td>386</td>
</tr>
<tr>
<td>Stuttering: Theories and Therapies</td>
<td>387</td>
</tr>
</tbody>
</table>

**Electives chosen from:**

- Fundamentals of Speech Comm. 101-102
- Survey of Speech Pathology 210
- Phonetics 274
- Speech and Hearing Science 291
- Oral Language Development 299
- Applied Phonetics 343
- Basic Audiology 384
- Non-Organic Voice and Articulation Problems 385
- Organic Speech Pathologies 386
- Stuttering: Theories and Therapies 387
COMMUNICATIONS

Speech Reading and Auditory Training 388 3
Directed Clinical Observation 390 2
Beginning Clinical Practicum 393 2
Intro. to General Semantics 401 2
Advanced Clinical Practicum 410 3
Advanced Audiology 441 3
Diagnosis in Speech Pathology 461 3

Required Cognates:
General Biology Bio. 101, 102, 103 12
Anatomy & Physiology Bio. 202, 203 10
General Sociology Soc. 204, 205 6
Elementary Statistics Psych. 350 3
Psychological Testing Psych. 430 3
Child Psychology Psych. 435 3
Psychology of Personality Psych. 446 3

MINOR REQUIREMENTS IN SPEECH COMMUNICATION:
A minimum of 27 credits including 101-102 and 9 upper-division credits. Approval of the department chairman required.

COURSES IN SPEECH COMMUNICATION

101-102. FUNDAMENTALS OF SPEECH COMMUNICATION. An introduction to the procedure of public speaking with emphasis on the acquisition of ease before an audience, a conversational attitude, and reasonable facility in pronunciation, articulation, and voice production. Two credits each quarter, or four credits in one quarter.

107. VOICE AND ARTICULATION. To aid in understanding and improving the speaking voice, with emphasis on the function of the speech mechanism. Instruction and practice to improve the quality and effectiveness and to develop clear and correct pronunciation, enunciation, and articulation. Two credits.

207. SMALL GROUP COMMUNICATION. A study of the nature of group and interpersonal processes; includes leadership and participation in group discussion. Two credits.

211. ORAL INTERPRETATION. A course in reading from the printed page with fluency and effectiveness, including reading from the Scriptures. A study of the various types of interpretative literature with a view toward its understanding for the purpose of public presentation. Two credits.

252. **PLAY PRODUCTION.** A course concerned with the analysis, rehearsal and performance of a play chosen by the instructor. May be taken only by permission of the instructor. One to three credits.

275. **COMMUNICATION THEORY.** An examination of contemporary thought on the nature and process of communication. Two credits.

323. **ADVANCED PUBLIC ADDRESS.** A course stressing the practical application of speech to the student's major field of interest. It includes the study of speeches for social and business occasions with practice in the classroom. Prerequisite: 101-102. Three credits.

341. **LOGIC.** The study of evidence and reasoning toward the goal of critical thinking. Application of logic to analysis of contemporary issues and cogent thinking; includes theory and practice. Two credits.

342. **DEBATE.** The structure and presentation of evidence and forms of logic in debating the national collegiate debate topic. Prerequisite: 341. Two credits.

352. **SURVEY OF BROADCASTING.** Study of organization and operation of stations, networks, and world systems of broadcasting as well as study of legal and regulatory control of radio-tv. Three credits.

363. **HISTORY OF DRAMATIC ARTS.** The study of the history and development of the theater from the Greek to the 20th century. Three credits.

365. **PLAY DIRECTION.** Fundamentals of play direction. Producing and directing a one-act play or one act from a longer play for public performance. Two credits.

381, 382. **PULPIT ADDRESS.** Preparation and delivery of sermons and other types of public speeches. Adequate opportunity for practice is provided by the laboratory facilities of the department and through numerous speaking appointments. Three credits each quarter.

400. **TOPICS IN SPEECH COMMUNICATION.** The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

401. **INTRODUCTION TO GENERAL SEMANTICS.** A course stressing the use of language to influence human behavior; language in problem solving and as a means of resolving conflicts. Prerequisites: 101-102 or equivalent or permission of instructor. Two credits.

443. **PERSUASIVE SPEAKING.** The study of motivation and human behavior as applied by the public speaker in the process of persuasion. The analysis of persuasive speeches for emotional, ethical, and logical proof. Practice in composing and delivering speeches to stimulate and convince. Prerequisite: 101-102. Three credits.

453. **RHETORIC AND PUBLIC ADDRESS.** Study of the principles of rhetoric proposed by Aristotle, Quintillian, Cicero and others. The relationship of the principles of rhetoric to modern speechmaking. Prerequisite: 101-102. Three credits.

472. **METHODS OF TEACHING SPEECH COMMUNICATION.** The basic principles and practices of teaching speech on the elementary and
COMMUNICATIONS

secondary levels. Special attention will be given to the contemporary methods of presentation in classroom and therapy situation. Observations, demonstration and class participation are required. Three credits.

477, 478, 479. INDEPENDENT STUDY IN SPEECH COMMUNICATION. Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits.

497. SEMINAR IN COMMUNICATION MEDIA. Studies of selected topics and review of current literature in communication media. Individual research projects included. Two credits.

COURSES IN SPEECH PATHOLOGY AND AUDIOLOGY

210. SURVEY OF SPEECH PATHOLOGY AND AUDIOLOGY. A survey of communication disorders common to the elementary school setting; major emphasis will be given to the etiologies, symptomatologies, and the recognition of speech, language, voice, and hearing disorders. Three credits.

274. PHONETICS. The theory, history, development and application of the international phonetic alphabet, its application to speech correction and to adequate pronunciation. Three credits.

291. SPEECH AND HEARING SCIENCE. A comprehensive study of the anatomy, physiology and neuroanatomy of the speech and hearing mechanisms. Prerequisite: Biology 202, 203. Three credits.

299. ORAL LANGUAGE DEVELOPMENT. Intensive study of pre-speech activities, early speech development and learning theory as these affect language development. Knowledge of phonetic alphabet recommended. Two credits.

343. APPLIED PHONETICS. A study of the history, acoustics, and changing forms of the English phoneme, phonetic instrumentation, with extensive practice in narrow transcription, and application to clinical evaluation techniques. Prerequisite: 274. Two credits.

384. BASIC AUDIOLOGY. A study of the history of audiology, rehabilitation of the acoustically handicapped, and basic clinical techniques used in air, bone, and speech audiometry. Prerequisite: 210. Three credits.

385. NON-ORGANIC VOICE AND ARTICULATION PROBLEMS. A study of functional etiologies, symptomatologies, and treatment of defective articulation and functional voice problems; emphasis will be placed on the treatment of articulation disorders to help the student develop a large repertoire of therapeutic techniques. Prerequisite: 210. Four credits.

386. ORGANIC SPEECH PATHOLOGIES. A study of the etiologies, symptomatologies, and treatment of organic disorders including cleft palate, cerebral palsy, aphasia, organic voice, dysarthria, oral-facial anomalies, and mental retardation. Prerequisite: 385. Four credits.
COMMUNICATIONS

387. STUTTERING: THEORIES AND THERAPIES. A study of the theories of stuttering and an evaluation of therapeutic techniques employed. Case histories are studied in detail. Prerequisite: 385, 386. Four credits.

388. SPEECH READING AND AUDITORY TRAINING. Basic principles of establishing communication by observation of visible aspects of speech; methods of teaching lip reading to the acoustically handicapped; recognition and discrimination of speech sounds and speech skills. Three credits.

390. DIRECTED CLINICAL OBSERVATION. A course designed to provide the student opportunity to observe and evaluate speech, voice, language, and hearing therapy in progress in various therapy environments. Two credits.

393. BEGINNING CLINICAL PRACTICUM. A clinical experience for the beginning student clinician who will evaluate and treat primarily articulation disorders in the Speech and Hearing Clinic. Prerequisite: 386, 387. Two credits.

410. ADVANCED CLINICAL PRACTICUM. A course designed to give the more advanced student clinician experience in the diagnosis, treatment, and staffing of multiple-handicapped speech, voice, language, and/or hearing disorders. Prerequisite: 393, or permission from the instructor. One to three credits any quarter; maximum, six credits.

441. ADVANCED AUDIOLOGY. Psychophysical methods of auditory testing; specialized audiometric techniques; theory and practice determining types of hearing abilities; the interpretation of test results; hearing aid evaluation; follow-up procedures for the acoustically handicapped. Prerequisite: 384. Three credits.

461. DIAGNOSIS IN SPEECH PATHOLOGY. Diagnosis and appraisal procedures of communicative disorders. Includes the use of speech and language tests, associated behavior, and instrumentation techniques. Prerequisite: 393. Three credits.

473. CLEFT PALATE SPEECH. A study of the etiology of cleft palate and the techniques employed during therapy. Case histories are studied in detail. Prerequisite: 386. Three credits.

475. VOICE DISORDERS. Study of the etiological, diagnostic, and therapeutic approaches to functional and organic disorders of voice; consideration of the acoustic characteristics of aberrant voice and mechanical faults of voice production. Prerequisite: 385. Three credits.
EDUCATION AND PSYCHOLOGY


The department offers programs leading to a Bachelor of Science degree with a major in elementary education or psychology. Minors are available in either education or psychology, and preparation is also provided for Washington State and denominational certification for elementary and secondary teaching. Generally, a bachelor's degree and the first certificate (provisional) can be earned in four years of study.

Graduate work leading to a master's degree in education is also offered. (For further information, see the Graduate Bulletin.)

Attention is given to planning each program to fit the needs of the individual student. Those transferring from other colleges should plan carefully with departmental advisers to avoid unnecessary duplication of course work.

MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:

Major: Elementary Education

In addition to the basic requirements for a Bachelor of Science degree as described on pages 43 and 44, 45 hours in professional education courses, as approved by the department of education and psychology adviser, will be selected from each of the following areas:

A. Social and Philosophical Foundations (choose one) 3
   210 Foundations of Education
   404 History of Education
   Soc 431 Sociology of Education
   493 Systems of Thought
   *522 Philosophy of Education
   *525 Education in the 20th Century

B. Psychological Foundations (3 credits from each group) 9
   220 Educational Psychology or
   *521 Psychology of Learning
   390 Educational Evaluation
   435 Child Psychology or
   431 Psychology of Exceptional Children

C. Curriculum and Instruction (3 credits from each group) 12
   362 Reading in the Elementary School
   361 Language Arts in the Elementary School or
   365 Social Studies in the Elementary School
   369 Science in the Elementary School or
   373 Mathematics in the Elementary School
   465 Micro-Teaching Laboratory

D. Supervised Teaching Experiences 12

E. Electives (with advisement) 9

*Available only to seniors who meet grade-point average requirements for graduate admission.
EDUCATION AND PSYCHOLOGY

Note: All candidates for a degree with a major in elementary education must qualify for a teaching certificate under either Program 1 or Program 2 under "Professional Elementary Certification" p. 81.

MINOR REQUIREMENTS IN EDUCATION:

A minimum of 30 credits in professional education. Approval of the plan of study by the department of education and psychology is required. Usually included are those courses required for a provisional teaching certificate. However, completion of the minor does not necessarily satisfy certification requirements for all students.

REQUIREMENTS FOR PROVISIONAL CERTIFICATION:

Certification is contingent upon the successful completion of one of the programs below under "Provisional Elementary Certification" and such proficiency examinations as may be required by the department of education and psychology with the approval of the Teacher Education Council.

State certification procedures must be initiated by the student. The College recommends the student after formal application and the payment of a certification fee of $1.00 to the County Superintendent of Schools. Denominational certification applications are filed with the union conference educational secretary for processing. The "credentials" on file in the placement office of the College do not relate to the certification for teaching.

History 446, History of the Pacific Northwest, is required of elementary teachers and those secondary teachers who plan to teach social sciences. It may be deferred to the fifth year.

Preparation for Directed Teaching:

Candidates for teacher certification are required to register for a 12-credit "block" of directed teaching in a given quarter after prerequisite professional education courses have been taken. During the first two weeks of the quarter, the department provides a short-term course of three hours credit for a total of 15 hours. Application for student teaching must be made to the Student Teaching Committee at least one full quarter prior to the planned experience. Students who elect to register for three credits in 447, School Exploratory Experience, may be entitled, by permission of the Student Teaching Committee, to a reduction of the required 12 hours in directed teaching. See course descriptions 447, 450, or 460 for further information.

Many of the student teachers do their directed teaching in either of the two church-related schools located close to the Walla Walla College campus.

Rogers Elementary School:

The Rogers School is an eight-grade elementary school with 12 classrooms and 15 teachers. It is well equipped, has a large playground and maintains a qualified staff.

Dale Wendt, M.Ed., Principal

Walla Walla Valley Academy:

Walla Walla Valley Academy is a four-year senior high school with 15
classrooms and 16 teachers. The academy is accredited with the Northwest Association of Secondary and Higher Schools.

Loren E. Poole, M.A., Principal

Public Schools:

In addition to the two schools mentioned above, the candidates for teacher certification at Walla Walla College have been fortunate in arranging opportunities to do their directed teaching in several of the public elementary and secondary schools in Walla Walla, College Place, and Milton-Freewater.

Provisional Elementary Certification:

Three programs are now available to students seeking certification in elementary teaching. Consult with an adviser from the department of education and psychology to determine which program is best suited to your particular needs. Proficiency examinations are required in all three programs.

Program 1: Bachelor of Science degree with a major in elementary education, and two approved minors selected in consultation with an adviser of the department of education and psychology.

Program 2: Bachelor of Science degree with a major in elementary education, and an approved concentration of a minimum of 45 hours.

Program 3: A bachelor's degree with a major and a minor (see page 135 for the approved program in Music Education) in approved areas selected in consultation with an adviser in the department of education and psychology and a professional education sequence as planned for each individual.

Typical Professional Education sequence for those preparing for elementary teaching under Program 3:

Although demonstrated proficiency may waive certain course requirements, a typical sequence in Professional Education for elementary teachers would include the following:

Proficiency examinations as required

Psychological Foundations
Child Psychology
Educational Psychology

Methods and Evaluation
Educational Evaluation
Reading in the Elementary School
Language Arts in the Elementary School
Social Studies in the Elementary School
Mathematics in the Elementary School

Supervised Experiences
Micro-Teaching Laboratory
Directed Teaching
EDUCATION AND PSYCHOLOGY

The following majors, minors and fields of concentration have been approved by the Teacher Education Council for provisional elementary certification:

<table>
<thead>
<tr>
<th>M</th>
<th>Major</th>
<th>c = concentration</th>
<th>m = minor</th>
</tr>
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<tbody>
<tr>
<td>M</td>
<td>Art</td>
<td>cm</td>
<td>M cm**</td>
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<tr>
<td>m</td>
<td>Biology</td>
<td>cm</td>
<td>M m</td>
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<td>Business or Economics</td>
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<td>Modern Language (only one)</td>
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<tr>
<td>m*</td>
<td>Library Science</td>
<td>M</td>
<td>M m**</td>
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</tbody>
</table>

*Only one of the minors with an asterisk (*) may be chosen when students choose to follow Program 1 under "Provisional Elementary Certification" above.

**Teaching minor only

Provisional Secondary Certification:

In addition to the basic requirements for the Bachelor of Science degree or for the Bachelor of Arts degree as listed in the section "Degree Requirements," the candidate must complete a regular college major and minor or teaching major or minor if available (See Business Education and Music Education approved programs, p. 169 and 149 in areas taught in secondary schools. The student also must complete 30 hours in professional education courses and/or such proficiency examinations as may be required by the department of education and psychology and the major and minor departments concerned, with the approval of the Teacher Education Council. A typical sequence of courses might include:

A. Social and Philosophical Foundations (choose one) 3
   210 Foundations of Education
   404 History of Education
   Soc 431 Sociology of Education
   493 Systems of Thought
   *522 Philosophy of Education
   *525 Education in the 20th Century

B. Psychological Foundations 9
   220 Educational Psychology or
   *521 Psychology of Learning
   plus
   390 Educational Evaluation
   440 Adolescent Psychology

C. Curriculum and Instruction 6
   465 Micro-Teaching Laboratory
   471 Methods in (major or minor area)

D. Supervised Teaching Experiences 12

*Available only to seniors who meet grade-point average requirements for graduate admission.
REQUIREMENTS FOR DUAL PROVISIONAL CERTIFICATION (Elementary and Secondary):

Students seeking initial certification for both the elementary and secondary teaching must successfully complete the specific requirements for each level and/or such proficiency examinations as may be required by the department of education and psychology with the approval by the Teacher Education Council. Due to similarities in the two programs, the requirements for dual certification are usually somewhat less than separate certification for both levels. The directed teaching requirement may be met by a split-level assignment. Students interested in such a program are advised to contact an adviser in the department of education and psychology as early as possible.

REQUIREMENTS FOR STANDARD CERTIFICATION—FIFTH YEAR:

To be recommended for the Washington Standard Certificate, the candidate must fulfill the following requirements:

1. Hold a valid Washington provisional certificate.
2. Complete two years of successful teaching.
3. Complete a minimum of 45 quarter credits beyond the bachelor's degree in a program preplanned in cooperation with the certification adviser of the department of education and psychology.
4. Take History of the Pacific Northwest (for all elementary teachers and for those secondary teachers who plan to teach in social sciences.)

Of the credits, 23 credits must be earned in residence; if approved, 0 credits may be earned prior to the first year of teaching; at least 15 credits must be earned after the first year of teaching; a maximum of 12 credits may be earned by correspondence and/or extension study. Correspondence or extension credits must be from schools approved by the college.

The fifth-year plan must be submitted for approval to the department of education and psychology certification adviser prior to beginning the course work. By careful programming, some students are able to complete the requirements for a master's degree in education at the same time they are fulfilling the requirements for the Standard Certificate. For further information, consult the Graduate Bulletin.

REQUIREMENTS FOR PRINCIPAL'S CREDENTIALS:

The department provides courses which lead to both the provisional and standard principal's credentials (elementary, secondary, general). Further particulars are available from the department chairman.
EDUCATION AND PSYCHOLOGY

COURSES IN EDUCATION

105. INTRODUCTION TO TEACHING. Designed to assist the individual who desires to explore teaching as a possible profession. Emphasis is upon providing the student with directed exposure to the educational process at all levels. Two credits.

110. PHILOSOPHY OF CHRISTIAN EDUCATION. A study of the ideals and principles of Christian education, especially as interpreted by the Seventh-day Adventist church. Two credits.

150. TEACHER AIDE. Designed to prepare the paraprofessional for classroom activities at either the elementary or secondary level. Three credits.

210. FOUNDATIONS OF EDUCATION (formerly Introduction to Education). A study of historical and philosophical foundations underlying the current organization and objectives of American education. Three credits.

298H&PE. PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL. See department of health and physical education. Three credits.

305Art. ART IN THE ELEMENTARY SCHOOL. See department of art. Three credits.

312Music. ELEMENTARY SCHOOL MUSIC LITERATURE. See Department of Music. Two credits.

361. LANGUAGE ARTS IN THE ELEMENTARY SCHOOL. Materials, objectives and methods used in the teaching of the language arts in the elementary school—composition, spelling, reading, listening, speaking. Three credits.

362. READING IN THE ELEMENTARY SCHOOL. Objectives and methods in the teaching of reading in the elementary school. Three credits.

365. SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. Materials, objectives and methods used in teaching social studies in the elementary school, chosen from the fields of geography, history, civics and economics. Three credits.

365LS. LIBRARY MATERIALS FOR CHILDREN. See library science. Three credits.

369. SCIENCE IN THE ELEMENTARY SCHOOL. Objectives and materials used in the teaching of science at the primary and intermediate levels with particular emphasis on the application of the scientific method. Three credits.

373. MATHEMATICS IN THE ELEMENTARY SCHOOL. Methods of teaching modern mathematics in the elementary school. Three credits.

390. EDUCATIONAL EVALUATION. A practical introduction to principles and techniques of evaluating classroom activities in elementary and secondary schools. Three credits.

400. TOPICS IN EDUCATION. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.
404. HISTORY OF EDUCATION. A survey of the history of education. Three credits.

411Eng. LITERATURE IN THE ELEMENTARY SCHOOL. See department of English. Three credits.

412Eng. LITERATURE IN THE SECONDARY SCHOOL. See department of English. Three credits.

426. EDUCATIONAL GUIDANCE. The philosophy, functions, organization, personnel and evaluation of the school guidance program. Three credits.

431H&PE. ELEMENTARY SCHOOL HEALTH INSTRUCTION. See department of health and physical education. Three credits.

431Soc. SOCIOLOGY OF EDUCATION. See department of history, political science and sociology. Two credits.

439IE. INDUSTRIAL ARTS IN THE ELEMENTARY SCHOOL. See department of industrial education and technology. Three credits.

447. SCHOOL EXPLORATORY EXPERIENCE. Opportunity to participate in professionally structured experiences prepared for elementary or secondary school faculties prior to the opening activities in the organizational period of the school year. Time involved—three to four weeks. (By permission, this may be applied toward the 12-hour directed teaching requirements.) Three credits.

450. DIRECTED TEACHING—Elementary. Professional laboratory experiences for students preparing to teach on the elementary level. A weekly seminar will be conducted for students teaching in the Walla Walla area. Application for the autumn quarter must be made during the preceding spring quarter; application for the winter and spring quarters must be made during the first week of the autumn quarter. By permission of the Student Teaching Committee, after completion of 362, 465, and 365 or 369 or 373 or 361; 390 is to be taken concurrently. Maximum: twelve credits.

452. DIRECTED TEACHING—In-Service. Directed laboratory experience for a teacher desiring to improve his professional skills. Training in methods of analysis of teaching and practice in the use of these methods of self-analysis will be included. Registration only after approval of the Academic Standards Committee and by permission of the Student Teaching Committee after completion of the required courses in professional education (consult with the education department adviser). Maximum: six credits. (Balance of regular 12-hour requirement is waived.)

454. DIRECTED FIELD EXPERIENCE—Speech Pathology and Audiology. Professional laboratory experience at both elementary and secondary school levels for the Speech Pathology and Audiology major. A weekly seminar will be conducted for students working in the Walla Walla area. Application for the autumn quarter must be made during the preceding spring quarter; application for the winter and spring quarters must be made during the first week of the autumn quarter. By permission of the Student Teaching Committee, after completion of 465; 390 is to be taken concurrently. Maximum: twelve credits.
460. DIRECTED TEACHING—Secondary. Professional laboratory experience for students preparing to teach at the secondary school level. A weekly seminar will be conducted for students teaching in the Walla Walla area. Application for the autumn quarter must be made during the preceding spring quarter; application for the winter and spring quarters must be made during the first week of the autumn quarter. By permission of the Student Teaching Committee, after completion of 465; 390 is to be taken concurrently. Maximum: twelve credits.

461. METHODS OF AUDIO-VISUAL EDUCATION. A survey of the methods of instruction through the use of audio-visual aids. The course provides training in equipment utilization, integration of techniques into instructional practices and selection and evaluation of audio-visual media. Two credits.

462. INSTRUCTIONAL AIDS—PRODUCTION. Designed for teachers, audio-visual directors and others interested in laboratory experience in the production of instructional aids; emphasis is on course-of-study implementation through production techniques feasible at the local school level. By permission of instructor. Two credits.

465. MICRO-TEACHING LABORATORY. This course will consider basic principles of instruction and fundamental teaching procedures which are applicable at any grade level. Laboratory practice in certain teaching skills will be provided following the micro-teaching model. The class will meet for two hours one night each week and each student will participate weekly in a teaching laboratory. Prerequisite: one methods course on the appropriate teaching level. Three credits.

471, 472, 473. METHODS COURSES. Several methods courses are offered by the various departments of the College. They deal with materials and specific methods applicable to the teaching of each individual subject. Topics covered include: instructional objectives, lesson plans, teacher self-evaluation, discipline, human relations in teaching, social interaction, communication in the classroom, and professional ethics. Actual classroom presentation and demonstration is included. (All courses have the same numbers.) Three credits.

474. WORKSHOP IN EDUCATION. A workshop designed to permit both experienced teachers and those preparing to teach to study and seek solutions to current problems in the field of education. Regular class sessions are planned. One to three credits; maximum, six credits.

477, 478, 479. INDEPENDENT STUDY IN EDUCATION. Directed study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open to students preparing for teaching certification. Permission from the chairman of the department and supervising instructor is required. One to three credits any quarter; maximum, three credits.

490. TEACHING HIGH SCHOOL READING. Basic principles of reading instruction; methods, materials and organization of the developmental and corrective reading programs in high school. Three credits.
EDUCATION AND PSYCHOLOGY

492. EDUCATION OF THE GIFTED. Emphasis is placed upon the design of learning opportunities for gifted children in the light of psychological characteristics of such children. Three credits.

493. SYSTEMS OF THOUGHT. An intensive study of various aspects of philosophical thinking and their bearing upon education. Especially valuable in comprehending much current writing in education. (Ideally should precede or be taken in conjunction with 522.) Three credits.

495. EARLY CHILDHOOD EDUCATION. A critical review of the experimental literature of the cultivation of intellectual abilities in the young child with implications for the curriculum in nursery school and kindergarten. Prerequisites: Psychology 220 and Psychology 435. Three credits.

496. ELEMENTARY SCHOOL GUIDANCE. A study of the rationale for elementary school guidance with emphasis upon current research and issues. Attention will be focused upon the tools and techniques of both classroom and out-of-class guidance functions and services. Three credits.

Graduate Courses

500. GRADUATE SEMINAR. A weekly discussion period in which faculty and students explore significant issues in education. One credit. Maximum, three credits.

504. ELEMENTARY SCHOOL CURRICULUM. A study of the elementary school curriculum, including objectives, essentials of a good program, varying curriculum patterns and appraisal of current practices. Three credits.

508. SECONDARY SCHOOL CURRICULUM. Overview of the secondary school curriculum, with emphasis on the various subject fields; organization of the school for curriculum development; educational objectives; the courses of study; evaluation of the secondary school curriculum. Three credits.

522. PHILOSOPHY OF EDUCATION. A study of the basic philosophies and development of educational thinking resulting in the formulation of aims and objectives of education for today's schools. Three credits.

525. EDUCATION IN THE TWENTIETH CENTURY. Historical background of modern education with emphasis on trends and developments in the twentieth century. Three credits.

526. SCHOOL FINANCE. A course designed for administrators, emphasizing origins and disbursement of school funds derived from tax sources and other revenues. Techniques of budget construction are studied and a general overview is given of the principles of financing education. Three credits.

527. SCHOOL PLANNING AND CONSTRUCTION. A survey of how to plan and build schools, including the involvement of the lay citizen. Selection of site, trends in design, function of buildings and plant, costs and obligations will be studied. Professional architects and engineers will be guest lecturers. Three credits.
EDUCATION AND PSYCHOLOGY

535. TEACHING OF REMEDIAL READING. Diagnostic and remedial reading techniques, how to recognize reading difficulties and improve reading skills. Laboratory experience required. Three credits.

539. SUPERVISION. For principals, classroom teachers or those planning to be supervisors. Problems, responsibilities, privileges and duties of both teacher and supervisor, and the improvement of teachers in service through a comprehensive program of supervision. Three credits.

544. ADMINISTRATION OF THE ELEMENTARY SCHOOL. Organization, supervision and administration of elementary schools. Three credits.

550. SCHOOL LAW. Utilizing the case study method, this course is designed to acquaint the student with the legal basis for public and parochial school operation in the United States. Three credits.

551. ADMINISTRATION OF THE SECONDARY SCHOOL. Problems and procedures in the organization and administration of secondary schools. Three credits.

556. CURRICULUM PLANNING. The relation of curricular materials to educational outcomes in terms of personal and social values. A brief review of curriculum investigations and their significance in the selection and evaluation of school materials and activities. Current practices in curriculum revision. Three credits.

558. SCHOOL ACTIVITIES. Designed to acquaint the student with the range of the school activities program; to define the purpose of such activities; to provide him with a valid basis for evaluating existing or proposed activities; and to provide opportunity for intensive study of one activity. Two credits.

560. ADMINISTRATIVE PRACTICUM. Professional laboratory experience for candidates for an administrative credential. The course is designed to involve each candidate in a variety of practical administrative experiences and to assist in his successful induction into school leadership. Five credits.

561. METHODS OF RESEARCH. Procedures in the selection and evaluation of research projects and techniques in the analysis of research data. Three credits.

567. COMPARATIVE EDUCATION. A comparison of systems and philosophies of education in various parts of the world; emphasis on the role of cultural impacts. Three credits.

570. TOPICS. Selected topics in education involving research and reports in addition to regular class activities. Three credits any quarter; maximum, six credits.

581, 582, 583. PROFESSIONAL PROJECT. Selected areas of advanced study involving reading and research. Formal report required. Prerequisite: consent of department chairman and graduate standing. Two, four or six credits any quarter; maximum, six credits.

590. THESIS. Eight credits.
# MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:

**Major:** Psychology

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Psychology</td>
<td>121, 122</td>
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<tr>
<td>Psychological Experiments</td>
<td>225</td>
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<tr>
<td>Systems and Theories in Psychology</td>
<td>230</td>
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<tr>
<td>Elementary Statistics</td>
<td>350</td>
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<tr>
<td>Experimental Problems</td>
<td>375</td>
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<tr>
<td>Psychological Testing</td>
<td>430</td>
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<td>Child Psychology</td>
<td>435</td>
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<tr>
<td>Adolescent Psychology</td>
<td>440</td>
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<tr>
<td>Social Psychology</td>
<td>444</td>
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<tr>
<td>Child Psychology Laboratory</td>
<td>436</td>
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<tr>
<td>or</td>
<td></td>
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<tr>
<td>Social Psychology Laboratory</td>
<td>445</td>
</tr>
<tr>
<td>Psychology of Personality</td>
<td>446</td>
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<tr>
<td>Electives in psychology with advisement</td>
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</tbody>
</table>

**Required Cognates:**

- Fundamentals of Mathematics: Math. 121, 122 - 8
- General Biology: Bio. 101, 102, 103 - 12

# MINOR REQUIREMENTS IN PSYCHOLOGY:

The psychology minor serves as a basis for further training for a variety of occupations including careers in school counseling, industrial guidance services and certain types of social work. It can be integrated, by advisement, with related areas of sociology and health for candidacy for certification as a school psychologist.

<table>
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<td>446</td>
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<tr>
<td>Electives with advisement</td>
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</table>

May include select courses in biology, sociology or other related fields to be chosen in counsel with the department chairman.

Total Credits: 28
EDUCATION AND PSYCHOLOGY

PREPARATION FOR GRADUATE WORK IN PSYCHOLOGY:

Although specific requirements for admission to graduate programs in most universities will be met by the general major, the student should realize that his graduate work may be impeded or prolonged in certain areas of psychology if special preparation is not obtained at the undergraduate level. For this reason, students who plan to continue academic work in psychology beyond the bachelor's degree are urged to consult with their advisers very early in their college careers.

Three particularly specialized areas require emphasis. The first is psychobiology in which strong preparation in biology, chemistry and physics should be obtained. With the permission of an adviser, students indicating an interest in psychobiology will be permitted to substitute two advanced courses in zoology for two of the elective courses in psychology required for the major. These courses would not count as work in a related department although they would not preclude additional work in zoology to meet that requirement. The second is quantitative psychology. Students interested in quantitative psychology, with the consent of an adviser, may substitute two advanced courses in mathematics for two of the elective courses in psychology required for the major. The third is social psychology. Students interested in this area may, with the consent of an adviser, offer two advanced courses in political science, or sociology in place of two elective courses in psychology required for the major.

COURSES IN PSYCHOLOGY

Psychology 121 and 122 are prerequisite to all other courses in Psychology.

121, 122. GENERAL PSYCHOLOGY. An eclectic survey of the major areas of psychology emphasizing the scientific bases of psychological investigation. Designed to acquaint the student with the fundamental vocabulary, methodologies, established facts and sound principles of psychology as a prerequisite to advanced courses. Must be taken in sequence. Two credits.

220. EDUCATIONAL PSYCHOLOGY. This course emphasizes the application of psychological principles to the art of teaching. The responsibility of the school in developing a dynamic, social, and ethical personality is stressed. The practices of the modern school are studied in the light of empirical data, experimental research, and case studies. Three credits.

225. PSYCHOLOGICAL EXPERIMENTS. A laboratory course providing undergraduate students with elementary experimence in designing and conducting experimental research in the field of psychology. Two credits.

230. SYSTEMS AND THEORIES IN PSYCHOLOGY. Designed to acquaint the student with the historical development of the various systems and theories in psychology. Emphasis is placed upon the analysis of current systems and theories. Three credits.

350. ELEMENTARY STATISTICS. Descriptive techniques and other selected fundamental procedures for summarizing and interpreting data from tests and research in the various disciplines. Three credits.
EDUCATION AND PSYCHOLOGY

375. EXPERIMENTAL PROBLEMS. Open only to psychology majors. An advanced course which enables the student to develop skills in experimental design and to apply such skills to an individual research project. Prerequisite: 350 or equivalent. Three credits.

400. TOPICS IN PSYCHOLOGY. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

430. PSYCHOLOGICAL TESTING. Principles of test selection, administration, and interpretation are considered together with the contributions and limitation of the major types of standardized tests and inventories used in the behavioral sciences. Three credits.

431. PSYCHOLOGY OF EXCEPTIONAL CHILDREN. Characteristics and problems of all types of exceptional children with consideration of essential educational adaptation. Three credits.

435. CHILD PSYCHOLOGY. Principles of growth as related to various phases of human development during the pre-adolescent years: physical, mental and emotional. Three credits.

436. CHILD PSYCHOLOGY LABORATORY. Prerequisite: 435. One credit.

440. ADOLESCENT PSYCHOLOGY. Principles of growth as related to various phases of human development during the adolescent years: physical, mental and emotional. Three credits.

442. MOTIVATION. A study of basic drives and causes of behavior in organisms with emphasis upon human behavior. This course includes a laboratory. Three credits.

444. SOCIAL PSYCHOLOGY. The dynamics of social interaction and interpersonal behavior with application to contemporary society. Three credits.

445. SOCIAL PSYCHOLOGY LABORATORY. Prerequisite: 444. Corequisite: permission of the instructor. One credit.

446. PSYCHOLOGY OF PERSONALITY. Major theories concerning personality development, assessment, and adjustment will be considered. Three credits.

449. MENTAL HEALTH. Physiological and psychological factors related to emotional maturity. Identification of mental health activities. Individual mental health, classroom climate, patterns of acceptance and rejection. Three credits.

474. WORKSHOP IN PSYCHOLOGY. A workshop designed to provide experiences in investigation and evaluation of contemporary problems and practices in psychology. One to three credits; maximum, six credits.

477, 478, 479. INDEPENDENT STUDY IN PSYCHOLOGY. Directed, independent study in an approved area. Students will be required to read widely on an assigned subject, follow regular research methods and present a paper showing competence in and extent of his study. Open to majors and minors only. Permission from the chairman of the department and supervising instructor is required. One to three credits any quarter; maximum, three credits.
EDUCATION AND PSYCHOLOGY

489. VOCATIONAL DEVELOPMENT THEORY. Theories of vocational choice and methods of studying occupations and occupational information are considered as they relate to educational and vocational guidance. Three credits.

Graduate Courses

501. STATISTICS IN RESEARCH. An introduction to sampling theory, probability, and statistical inference as applied to research analysis and hypothesis testing. Includes simple multivariate techniques and selected distribution-free tests of significance. Prerequisite: 350 or equivalent. Three credits.

515. COUNSELING THEORIES AND TECHNIQUES. A study and application of the theories and techniques for counseling. Professional relationships and ethics are considered. By permission of the instructor. Three credits.

518. GROUP COUNSELING. Theories and techniques of counseling in group situations. Prerequisite: 515. Two credits.

521. PSYCHOLOGY OF LEARNING. The course includes analysis of the mechanisms involved in the learning process. The physiological and psychological bases for functional learning are discussed, and the experimental evidence supporting psychological hypotheses is reviewed. Three credits.

531. INDIVIDUAL TESTING—BINET. A course designed to familiarize the student with the Stanford-Binet Intelligence scale, its administration, interpretation and the writing of the psychological report. Prerequisite: 430 and permission of the instructor. Two credits.

532. INDIVIDUAL TESTING—WECHSLER. A course designed to familiarize the student with the Wechsler Intelligence scales, WAIS, WISC, WPPS, their administration, interpretation, and the writing of the report. Prerequisite: 430 and permission of the instructor. Three credits.

534. ASSESSMENT OF THE INDIVIDUAL. An introduction to and the use of methods applicable to assessment in schools where the counselor may be required to describe behavior. Experience in collecting data and writing case reports will be provided. Prerequisites: 430, 531 or 532. Two credits.

563. FIELD EXPERIENCE IN GUIDANCE. Provides broad experiences in the various guidance functions in actual field settings under the supervision of the college and qualified guidance workers. Prerequisite: Education 426. Three credits.

564. ABNORMAL PSYCHOLOGY. A study of behavioral disturbances, therapeutic measures and theories. Three credits.

565. PRACTICUM IN SCHOOL COUNSELING. An opportunity for professional in-depth experience in the counseling function under the supervision of the college and qualified school counselors. Prerequisites: 515, 554, and department approval. Five credits.
ENGINEERING


The College offers a curriculum with options leading to the degree of Bachelor of Science in Engineering, approved by the Engineers' Council for Professional Development. Its aim is to prepare students to enter the practice of professional engineering, and also to provide undergraduate instruction which will serve as an adequate foundation for graduate studies. Professional engineering is defined as the art and science of applying the principles of mathematics, science, economics, ethics and humanistic-social relationships to the problems of research, development, design and construction of devices, machines, structures and systems that will be of use to mankind.

The engineering course offerings are drawn from the fields of engineering science, civil engineering, electrical engineering and mechanical engineering. All engineering students will take a group of core courses intended to develop an understanding of basic engineering principles. Thereafter, by choosing appropriate electives in conference with the chairman of the department, the student may concentrate his efforts in the areas related to civil, electrical or mechanical engineering. Flexibility in this program may be obtained by limited substitutions, individually chosen in consultation with an adviser and departmentally approved, to form an integral engineering program. Should the student then wish to follow a specialized career in fields such as architectural engineering, aeronautical engineering, bio-engineering, electronics engineering, highway engineering, sanitary engineering or other such, he is prepared so to do through subsequent professional experience or graduate study.

Aside from the entrance requirements stated earlier in the BULLETIN, it is to be emphasized that entering freshmen should have a strong background in mathematics, physics and/or chemistry, history and English. Entrance deficiencies, if any, must be removed before the beginning of the sophomore year. On the other hand, advanced standing is permitted students who provide a transcript of successful studies at another approved college or university.

Admission to engineering studies will be made only in September, except for certain advanced students. Satisfactory progress is contingent upon attendance for the full year and the maintenance of a C average grade. Since there is no designated major or minor, the grade of D in any subject will be interpreted as follows: Such grade may be accepted for credit toward the degree provided that there are no more than two such in a given quarter, and further provided that the grade-point average for that quarter is not lower than 2.00. When these conditions do not hold, the courses involved must be repeated.

In the senior year, the following non-course requirements must be met: Senior Inspection Trip, Graduate Record Examination. Also, at or near the time of graduation, seniors will sit for the State of Washington Engineer-in-Training examination.
# Engineering Requirements—Bachelor of Science in Engineering Degree:

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<tr>
<th>First Year</th>
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<th>Second Year</th>
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<tbody>
<tr>
<td>Religion</td>
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<td>Religion</td>
<td>6</td>
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<tr>
<td>Freshman Composition</td>
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<td>Philosophy of Christian Educ.</td>
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<tr>
<td>Precalculus and Calculus</td>
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<tr>
<td>General Chemistry</td>
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<td>Linear Algebra</td>
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<tr>
<td>Engineering Core Courses</td>
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<td>Introductory Physics</td>
<td>15</td>
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<td>Physical Education</td>
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<td>Engineering Core Courses</td>
<td>18</td>
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<td>Humanistic-Social Electives</td>
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<tr>
<td>Religion</td>
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<td>Religion</td>
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<tr>
<td>Probability and Statistics</td>
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<td>Engineering Core Courses</td>
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<tr>
<td>Ord. Differential Equations</td>
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<td>Humanistic-Social Elecs.</td>
<td>11-12</td>
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<td>Engineering Electives</td>
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<td>Humanistic-Social Electives</td>
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<td><strong>50-54</strong></td>
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Variations in credit hours result from choices of electives and areas of emphasis.

Engineering Elective Sequences recommended for emphasis in:

**Areas related to Civil Engineering:** 213, 331, 334, 335, 338, 339, 346, 349, 352, 359, 367, 434, 435, 437, 438, 439.

**Areas related to Electrical Engineering:** 317, 318, 319, 322, 323, 355, 412, 413, 415, 416, 417, 418, 419 and Mathematics 313.

**Areas related to Mechanical Engineering:** 322, 327, 367, 368, 369, 408, 412, 413, 449, 451-452-453.

Elective sequences in Humanistic-Social areas to be selected in conference with the department chairman.

# Engineering Core Courses:

107-108, 109. **Introduction to Engineering.** Engineering communications, with emphasis upon sketching, conventional engineering drafting practices, pictorial representation; principles of descriptive geometry; study of engineering analysis using slide rule and desk calculator; introduction to the design process and elements of professional engineering. Two credits; autumn, winter, spring.
128. COMPUTER PROGRAMMING. An introduction to "hands-on" computer programming, employing BASIC language. Problems will be selected from areas of engineering and physical science. Problem analysis, algorithm, flow chart, coding, debugging, documentation. Prerequisite: Mathematics 117 or 121. One credit; winter.

207-208-209. ENGINEERING MECHANICS. Statics, two and three dimensional; analytical and graphical methods; kinetics; work and energy; dynamics of rotation, translation, and plane motion; impulse and momentum, vibrations, modified vector approach to be used throughout. Corequisite: Mathematics 282, 283, 293. Three credits; autumn, winter, spring.

218. COMPUTER SCIENCE I. An introductory course employing BASIC language for the general student, with problems to be drawn from many non-technical areas of interest. Computer characteristics and principles, programming, algorithm, flow charting, coding, debugging, documentation. "Hands-on" course work. Prerequisite: high school algebra. Two credits; spring.

220. COMPUTER SCIENCE II. A continuation of Computer Science I, with emphasis upon the FORTRAN language. Input-output and format statements, arithmetic assignment statements, mathematical functions, control statements, subscripted variables, subroutines, processing of non-numeric data, algorithm development, debugging and documentation. All instruction will be supported with a general-purpose computing system. Prerequisite: 128 or 218. Two credits; autumn.

228. ELECTRIC CIRCUIT ANALYSIS I. Electric circuit variables and parameters; Kirchoff's laws and circuit equations; AC steady-state analysis; frequency characteristics; two-terminal networks and equations; maximum power theorem and Thevenin's theorem. Laboratory is coordinated with classroom work and covers techniques of electrical measurement using bridges, potentiometer recorders, D'Arsonval meters, dynamometer meters, iron-vane meters. Prerequisite: Mathematics 281; corequisite: Physics 202. Four credits; winter.

301. MECHANICS OF MATERIALS. Stresses, deformations and deflections of posts, shafts, beams, columns; combined stresses; elasticity. Prerequisite: 207-208-209. Four credits; autumn.

312, 313. ENGINEERING MATERIALS. Study of the science of engineering materials—metallic and non-metallic; properties, uses, tests, behavior under stress; laboratory. Three credits; winter, spring.

325. FLUID MECHANICS. Fluid statics; fluid dynamics; nozzles, orifices, and weirs; impulse and reaction turbines; pipe flow; channel flow. Prerequisite: 207-208-209. Four credits; autumn.

326. ENGINEERING THERMODYNAMICS I. Properties of gases and vapors; entropy; PV, TS, HS, and HV planes; gas and vapor cycles; psychrometry; applications. Prerequisite: Physics 202; Mathematics 283. Four credits; winter.

329. ENGINEERING ELECTRONICS I. Characteristics and applications of electronic devices from the circuit viewpoint with major emphasis upon solid-state devices; diode circuits, biasing circuits, and amplifier circuits are studied, using both graphical techniques and equivalent-circuit models. Laboratory work required. Prerequisite: 228. Three credits; spring.
ENGINEERING

343. ENGINEERING ADMINISTRATION. Business, economic, and ethical phases of engineering practice; engineering organization. Three credits; spring.

414. ENERGY CONVERSION I. A study of transformers, polyphase systems, characteristics of machines, induction motors, synchronous motors, single-phase motors; particular emphasis upon performance characteristics and applications of electrical machinery. Laboratory work required. Prerequisite: 228. Students electing a C.E. emphasis may substitute course 229. Four credits; autumn.

424. ANALOG COMPUTER PROGRAMMING. A study of the characteristics and applications of the analog computer; basic computing techniques; problem analysis, time and amplitude scaling, flow charting, documentation; problems solved during the course will be drawn from several different scientific disciplines. Permission of the instructor required. Prerequisite: Mathematics 312. One credit; autumn.

491-492-493. SEMINAR. Presentation and discussion by faculty and students of design problems and current trends in engineering. One credit; autumn, winter, spring.

ENGINEERING GENERAL COURSES:

213. SURVEYING I. Use of basic surveying instruments, computational methods for traverses, simple curves, mapping. Prerequisites: 107-108-109 and Mathematics 117. Three credits; spring.

226. COMPUTER SCIENCE III. An extension of Computer Science II which either: (1) covers the FORTRAN language in greater breadth; or (2) gives experience in depth through the development and documentation of non-elementary computer programs. Prerequisite: 220. Permission of the instructor required. One credit; winter or spring.

229. ELECTROMAGNETIC FIELDS I. Study of static electric fields, vector notation and coordinate systems, Coulomb's law, energy and potential theory, mapping, resistance and capacitance; fundamental principles of other types of fields will be studied, using the analogy principle. Prerequisites: 228 and Physics 202. Three credits; spring.

317, 318, 319. ELECTROMAGNETIC FIELDS II, III AND IV. Continuation of 229 with introduction of dynamic conditions and development of Maxwell's equations; interpretation and application of Maxwell's equations relative to circuit theory; development of concepts of energy propagation in waves along transmission lines, wave-guides, radiation from simple antennae. Laboratory work each quarter will provide experimental support of theory. Must be taken in sequence. Prerequisite: 229. Three credits; autumn, winter. Two credits; spring.

322, 323. ELECTRIC CIRCUIT ANALYSIS II AND III. Network equations and theorems; Fourier theorem and harmonic analysis; Laplace transform; impulse function and convolution theorem; one-port and two-port network analysis and synthesis. Must be taken in sequence. Prerequisite: 228. Three credits; winter, spring.
327. ENGINEERING THERMODYNAMICS II. A continuation of 326, with applications to engineering processes and systems. Prerequisite: 228. Four credits; spring.

331. HYDROLOGY. Occurrence, measurement, and storage of ground and surface waters. Corequisite: 325. Three credits; autumn.

334. SURVEYING II. Advanced concepts of surveying as applied to cadastral, route and earthwork, and land surveying methods, mapping. Prerequisite: 213. Two credits; autumn.

335. SOIL MECHANICS AND FOUNDATIONS I. Testing, classification and interpretation of soil tests; geology; fundamental principles of stress distribution and deformation characteristics of soils. Laboratory work required. Prerequisites: 301, 331; Chemistry 161-162-163. Three credits; winter.

338, 339. STRUCTURES I AND II. Graphical and algebraic analysis of statically determinate and indeterminate structures and their elements as applied to timber, steel and concrete construction; basic design concepts of beams, girders, columns, trusses, connections. Prerequisite: 301. Four credits; winter, spring.

346. CONTRACTS AND SPECIFICATIONS. Preparation and interpretation of contracts and specifications; ethical, legal, and contractual relation of the professional engineer to the public, the owner, and the contractor. Prerequisites: 335, 338. Two credits; spring.

349. TRANSPORTATION ENGINEERING. Highway, railroad, and airport planning, design; introduction to traffic engineering. Prerequisites: 335, 338; Mathematics 311. Three credits; spring.

352. THE ENVIRONMENT AND MAN. Interdisciplinary consideration of current topics involving the interrelations between man and his environment. Three credits; winter.

355. DIGITAL LOGIC CIRCUITS. Introduction to theory and applications of digital logic circuits; logic functions; logic gates; flip-flops; counters; modern integrated circuit logic families. Two credits; winter.

359. SANITARY COLLECTION AND DISTRIBUTION SYSTEMS. Design of water, sewage, and storm water transport systems; collection of ground and surface waters for public use. Prerequisite: 325, 331, 335, 352. Three credits; spring.

367, 368, 369. MECHANICAL ENGINEERING LABORATORY I. Fuels and lubricants; calorimetry; instrumentation, calibrations, flow of fluids. Corequisite: 325, 326. One credit; autumn, winter, spring.

408. MECHANICAL ENGINEERING LABORATORY II. Mechanical system studies. Prerequisite: 367, 368, 369. Three credits; winter.

412. SYSTEMS I. A study of mechanical, electrical, fluid and thermal dynamic systems; idealized models, response and analytical description; emphasis placed upon transient analysis by both classical and Laplace transform methods. Prerequisites: 228. Mathematics 312, Physics 203. Three credits; winter.

413. SYSTEMS II. An introduction to control and feedback systems mechanical, electrical, fluid, and thermal; major emphasis upon stability
of components and system; block diagrams and signal-flow methods. Laboratory work required. Prerequisite: 322, 323, 412. Four credits; spring.

415, 416. ENERGY CONVERSION II AND III. A continuation of 414, with particular emphasis upon the electromagnetic energy conversion fundamentals and the development of electric circuit models for electrical machinery; operation of rotating machines and systems of machines for control purposes. Laboratory work required. Prerequisites: 322, 414. Three credits; winter. Two credits; spring.

417, 418, 419. ENGINEERING ELECTRONICS II, III, IV. Continuation of 329; small-signal equivalent circuits, AC and DC coupled amplifiers, frequency response, RF amplifiers, band-pass amplifiers, broadband amplifiers; switching circuits, pulse and wave-shaping circuits; AM, FM and pulse modulation and demodulation systems. Laboratory work required. Must be taken in sequence. Prerequisite: 329. Four credits; autumn. Two credits; winter. One credit; spring.

434. SANITARY ENGINEERING PROCESS DESIGN. Analysis of water and wastes, with subsequent design of physical, chemical, and biological treatment facilities for domestic and industrial use. Laboratory work required. Prerequisites: 352, 359, 367; Chemistry 161-162-163. Four credits; autumn.

435. SOIL MECHANICS AND FOUNDATIONS II. Advanced testing and analysis of soils; applications to analysis and design of foundations, substructures, highways. Laboratory work required. Prerequisites: 335, 338, 339. Three credits; winter.

437, 438, 439. STRUCTURAL DESIGN. Analysis and design of steel, reinforced concrete and prestressed concrete determinate and indeterminate structures; industrial and multi-story buildings, bridges, rigid frames, arches; elastic, plastic limit and ultimate strength design procedures; general, matrix, and introductory finite element analyses. Includes computation laboratory. Prerequisite: 338, 339. Four credits; autumn, winter, spring.

449. HEAT TRANSFER. A study of the basic laws of heat transfer by conduction, convection, and radiation. Prerequisite: 326, 327; Mathematics 312, 313. Four credits; autumn.

451-452-453. MACHINE DESIGN. Practical application of kinematics, materials, mechanics, and mechanical processes to the design of machines and machine elements, with due regard to the selection of materials, construction, lubrication, safety, and cost. Calculations, layouts and detail drawings as required. Prerequisite: 301, 312, 313. Four credits; autumn, winter, spring.

477, 478, 479. INDEPENDENT STUDY IN ENGINEERING. Directed independent study in an approved area. The student will be required to read widely; follow regular research and/or design methods; present a paper and/or engineering design showing competence in arriving at an acceptable solution. For senior engineering students only, by permission of the department chairman. One to three credits any quarter; maximum, three credits.
ENGLISH

Helen Evans, Chairman; Ruth Burgeson, R. Emmerson, L. French, N. Moore, Carolyn Stevens, Phoebe Watson, Bonnie Widicker, G. Wiss.

The primary objective of the department is to develop competence in the use of the English language and to inspire students with the best in the world's literature.

Major requirements for a Bachelor of Arts degree include the core curriculum and its cognates and one of the specialized areas and its cognates.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

Core Requirements

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course Numbers</th>
<th>Credits</th>
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<tbody>
<tr>
<td>American Literature</td>
<td>224, 225, 226</td>
<td>6</td>
</tr>
<tr>
<td>English Literature</td>
<td>244, 245, 246</td>
<td>6</td>
</tr>
<tr>
<td>Literary Analysis and Research</td>
<td>286</td>
<td>3</td>
</tr>
<tr>
<td>Modern English Grammars</td>
<td>371</td>
<td>3</td>
</tr>
<tr>
<td>Intro. to English Linguistics</td>
<td>425 (or)</td>
<td>3</td>
</tr>
<tr>
<td>History of the English Language</td>
<td>426</td>
<td></td>
</tr>
<tr>
<td>Seminar</td>
<td>491</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives, upper-division literature

(Students choosing the secondary teaching area must include three hours of American literature)

46

Required Cognate:

History of England

Hist. 377, 378, 379

6

Specialized Areas

In addition to the core requirements, the student must choose one of the following specialized areas:

1. Teaching in the Elementary School

   Literature in the Elementary Sch. 411

   Required Cognates:
   Methods of Teaching Literature 471
   Methods of Teaching Composition in the Secondary School 472
   Writing Courses Beyond Freshman Composition in English or Journalism 6 credits

2. Teaching in the Secondary School

   Literature in the Secondary Sch. 412
   Electives, upper-division literature 2 credits
ENGLISH

Required Cognates:
Methods of Teaching Literature in the Secondary School 471
Methods of Teaching Composition in the Secondary School 472
Writing Courses or Speech (3 credits must be in writing) 6 credits

3. Graduate School and General Cultural Background
Classical Backgrounds 361
Electives, upper-division literature 5 credits

Required Cognates:
Electives, upper-division literature or writing courses beyond Freshman Composition 6 credits

MINOR REQUIREMENTS IN ENGLISH:

Minor: General

Emphasizes reading of literature to provide general cultural background and writing to develop creative and critical skills; will not qualify the student for teacher certification.

American Literature 224, 225, 226 6
or
World Literature 251, 252, 253
English Literature 244, 245, 246 6
Electives, upper-division literature or writing courses beyond Freshman Composition 15 27

Minor: Teaching

Emphasizes the understanding and appreciation of literature and the methodology of teaching literature and writing; qualifies the student for teacher certification on the elementary or secondary level.

American Literature 224, 225, 226 6
English Literature 244, 245, 246 6
Modern English Grammars 371 3
Electives, upper-division literature 9

Literature in the
Elementary School 411
or
Literature in the
Secondary School 412 3
Writing course beyond Freshman Composition 3 30
COMPOSITION

99. ENGLISH COMPOSITION. An intensive one-quarter review of grammar and structure with weekly writing experience; designed for students who need review before taking 101. Meets three to five times per week depending upon the student's background in English. Three credits.

101-102-103. FRESHMAN COMPOSITION. A study of the principles of composition; extensive reading of both prose and poetry to formulate and develop ideas logically. Three credits each quarter.

104-105. FRESHMAN COMPOSITION HONORS. An honors course designed for students who demonstrate superior ability in composition. Extensive reading and writing are required. Admission: superior score on qualifying tests set by the department. Students who complete 104 and 105 with a B or above will be granted three additional honors credits. Students who earn below a B in 104 will take 102 and 103. Students who earn below a B in 105 will take 103. Three credits each quarter.

107, 108, 109. ENGLISH FOR THE FOREIGN STUDENT. A study of English grammar with extensive practice in written communication. Language laboratory (from three to six hours a week according to need) is required. When the student has reached a performance level adequate to enter Freshman Composition 102, he may petition for a waiver of 101. Three elective credits each quarter.

280. ADVANCED WRITING. Additional work beyond the Freshman Composition level in exposition as well as some narration; extensive reading for ideas and style. Three credits.

286. LITERARY ANALYSIS AND RESEARCH. A composition course designed to prepare the literature student to write critical and research papers; emphasis on literary forms, analyses, bibliography sources, and research methods. Three credits.

371. MODERN ENGLISH GRAMMARS. The study of grammar and usage in current writing, with examination of traditional, structural, and transformational points of view. Three credits.

385, 386. CREATIVE WRITING. Techniques of writing beyond those of mere correctness and clarity in creative forms; poetry (385), prose (386). Prerequisite: 101-102-103 or 104-105. Three credits each quarter.

401. EXPOSITORY PROSE. Intensive work in analyzing and writing expository prose; emphasis on research methods, bibliography and idea development; designed to aid students in writing of research projects in their major fields. Two credits.

LITERATURE

224, 225, 226. AMERICAN LITERATURE. A chronological study of American literature with emphasis on major writers and movements from Puritanism to the present. Recommended it be taken in sequence. Two credits each quarter.

*See Transitional Curriculum listed under Non-Departmental.
244, 245, 246. **ENGLISH LITERATURE.** A chronological study of English literature with emphasis on the major writers and movements from Beowulf to the present. Recommended it be taken in sequence. Two credits each quarter.

251, 252, 253. **WORLD LITERATURE.** A survey of representative literature from ancient Greece and Rome, England, France, Germany, Italy, the Orient, Russia, Scandinavia, Spain and the United States. Recommended it be taken in sequence. Two credits each quarter.

Courses numbered 300 and above have as prerequisites the appropriate lower-division preparation. Registration only by permission of the department chairman.

350. **DIRECTED READING.** A course designed for upper-division students who have completed a literature survey course and wish to continue broadening their knowledge of literature by extensive reading; admission only by departmental approval. Prerequisites: 224, 225, 226 or 244, 245, 246 or 251, 252, 253. One to two credits any quarter; maximum, three credits.

354, 355, 356. **TWENTIETH CENTURY LITERATURE.** Modern American and British literary achievements studied as a revelation of contemporary attitudes, ideals, and conduct. Prerequisites: 224, 225, 226 and 244, 245, 246. Two credits each quarter.

361. **CLASSICAL BACKGROUND.** A detailed study of selections from classical literature, including the works of Homer, Sophocles, Plato, Virgil, Horace, Dante, Petrarch and Boccaccio. Prerequisites: 224, 225, 226 or 244, 245, 246 or 251, 252, 253. Three credits.

404, 405, 406. **THE VICTORIAN PERIOD.** An advanced study of the poetry and prose of the writers who molded and reflected characteristic opinion and ideals after the first third of the nineteenth century. Among the writers to be discussed are Tennyson, Newman, Mill, and Dickens (autumn); the Brownings, Ruskin, the Rossettis, and Thackeray (winter); and Matthew Arnold, Hopkins, George Eliot, and Hardy (spring). Prerequisite: 244, 245, 246. Three credits each quarter.

407, 408, 409. **AMERICAN LITERARY MASTERS.** An advanced study of selected American authors from the following literary periods: Romanticism (407), Realism (408), Naturalism and related early twentieth century movements (409). Prerequisite: 224, 225, 226. Three credits each quarter.

411. **LITERATURE IN THE ELEMENTARY SCHOOL.** The philosophy of the selection and study of literature on the elementary school level, with emphasis on appropriate gradation and suitability for various age groups. Three credits.

412. **LITERATURE IN THE SECONDARY SCHOOL.** The philosophy of literature selection and study on the secondary level, with particular emphasis on effective literature choice in relation to student problems and goals as well as literary appreciation. Three credits.

421, 422, 423. **THE ROMANTIC PERIOD.** An analysis of the emergence of Romantic ideals and their manifestation in British literature beginning with the pre-Romantic movement to 1832. Emphasis the first quarter, Wordsworth and Coleridge; the second, Blake and Byron; the third, Shelley and Keats. Prerequisite: 244, 245, 246. Two credits each quarter.
427, 428, 429. RESTORATION AND NEOCLASSIC LITERATURE. A study of the chief works of the important writers of the period, including Dryden, Swift, Defoe, Steele and Addison (autumn); Pope, Thomson, and others (winter); and Johnson, Boswell, Goldsmith, and others (spring). Prerequisite: 244, 245, 246. Two credits each quarter.

441, 442, 443. OLD AND MIDDLE ENGLISH LITERATURE. An advanced study of English literature from the earliest remains to about 1500; Old English works studied in translation and Middle English, including Chaucer, largely in the originals. In the first quarter, Old English prose and poetry; in the second quarter, Chaucer; in the third quarter, medieval romance and drama. Prerequisite: 244, 245, 246. Two credits each quarter.

453. AMERICAN LITERATURE BACKGROUND. A depth study of the ideologies and forms influencing and operating in the development of American literature; extensive work in both secondary and primary works to illuminate trends. Prerequisite: 224, 225, 226. Three credits.

464, 465, 466. RENAISSANCE LITERATURE. A detailed study of the significant literature that reflects the essential temper of the Renaissance period. Autumn quarter includes early drama, the growth of lyricism, and the development of English prose; winter includes drama other than Shakespearean, the Cavalier and metaphysical poets, and the principal seventeenth-century prose writers; spring includes the work of Milton and Bunyan. Prerequisite: 244, 245, 246. Three credits each quarter.

467. SHAKESPEARE. An intensive study of content and form in selected works of Shakespeare, their relationship to their times, and their contribution to the development of drama and poetry in the Renaissance. Prerequisite: 244, 245, 246. Three credits.

468. LITERATURE OF THE BIBLE. The study of both poetry and prose in the Old and New Testament, with a detailed analysis of the poem of Job. Prerequisite: 224, 225, 226 or 244, 245, 246 or 251, 252, 253. Three credits.

491. SEMINAR. An integrating course required of English majors in the senior year. The study includes practice in bibliography and research methods, problems in areas of special interest to the class members, group conferences and reports. Three credits.

GENERAL

400. TOPICS IN ENGLISH. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

425. INTRODUCTION TO ENGLISH LINGUISTICS. Detailed scientific analysis of the structure of Germanic and Romance Languages, stressing those aspects of formative change which help to clarify current English usage. Three credits.

426. HISTORY OF THE ENGLISH LANGUAGE. This course is designed to give the student a broad, comprehensive understanding of present-day English. It aims to present the historical development in such a way as to maintain a balance between the external and internal history of the language. Three credits.
471. METHODS OF TEACHING LITERATURE IN THE SECONDARY SCHOOL. A study of various methods of effectively presenting literature to adolescents. Two credits.

472. METHODS OF TEACHING COMPOSITION IN THE SECONDARY SCHOOL. Study and practice in the technique of motivating the student, presenting the assignment, and evaluating the results of student composition. Extensive practice with student-written themes. Prerequisite: 371 or permission of the instructor. Two credits.

473. METHODS OF TEACHING MODERN GRAMMARS IN THE ELEMENTARY AND SECONDARY SCHOOLS. An intensive course integrating methodologies pertaining to the teaching of traditional, structural and transformational grammars. Prerequisite or corequisite: 371. Three credits.

477, 478, 479. INDEPENDENT STUDY IN ENGLISH. Directed study in either literature or language; a research-oriented approach presupposing considerable background; open only to majors and minors. One to three credits any quarter; maximum, three credits.
HEALTH, PHYSICAL EDUCATION, AND RECREATION

E. Winter, Chairman; G. Hamburch, D. Munroe, Elizabeth Reel, E. Schneider, J. Waterbrook.

The aim of the department is to promote those activities which stimulate habits of regular exercise and develop interests and skills which may be enjoyed throughout life.

GENERAL REQUIREMENTS OF ALL STUDENTS

All students are required to complete a total of 3 credits of the service courses offered in the department of physical education. This requirement should be met during the student's freshman and sophomore years.

MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:

<table>
<thead>
<tr>
<th>Core Requirements</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Introduction to PE</td>
<td>181</td>
</tr>
<tr>
<td>Professional Activities I</td>
<td>187, 188, 189</td>
</tr>
<tr>
<td>Officiating of Sports Activities</td>
<td>280</td>
</tr>
<tr>
<td>Intramural Activities</td>
<td>295</td>
</tr>
<tr>
<td>Professional Activities III</td>
<td>381, 382, 383</td>
</tr>
<tr>
<td>Foundations of PE</td>
<td>422</td>
</tr>
<tr>
<td>Administration of PE</td>
<td>451</td>
</tr>
<tr>
<td>Seminar</td>
<td>492, 493</td>
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<td></td>
<td>26</td>
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</table>

Concentration: Physical Education

<table>
<thead>
<tr>
<th></th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy</td>
<td>264</td>
</tr>
<tr>
<td>Kinesiology</td>
<td>265</td>
</tr>
<tr>
<td>Professional Activities II</td>
<td>287, 288, 289</td>
</tr>
<tr>
<td>Physiology of Exercise</td>
<td>363</td>
</tr>
<tr>
<td>Teaching Techniques of PE Act.</td>
<td>420</td>
</tr>
<tr>
<td>Tests and Measurements in PE</td>
<td>423</td>
</tr>
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<td>20</td>
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Required Cognates:

<table>
<thead>
<tr>
<th></th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>Contemporary Health Issues</td>
<td>110</td>
</tr>
<tr>
<td>First Aid</td>
<td>283</td>
</tr>
<tr>
<td>School Health Program</td>
<td>351</td>
</tr>
<tr>
<td>Sec. School Health Instruction</td>
<td>432</td>
</tr>
<tr>
<td>General Biology</td>
<td>Bio. 101, 102, 103; 203</td>
</tr>
<tr>
<td>Introductory Chemistry I Chem. 101-102-103 (Students presenting one unit secondary school chemistry with laboratory may be exempt from this requirement.)</td>
<td>9</td>
</tr>
<tr>
<td>Human Nutrition</td>
<td>HEc. 220</td>
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</table>

A minor in health or biology is recommended.
HEALTH, PHYSICAL EDUCATION, AND RECREATION

Concentration: Recreation

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>Aquatics</td>
<td>350</td>
</tr>
<tr>
<td>Arts and Crafts</td>
<td>6</td>
</tr>
<tr>
<td>To be selected from this and other</td>
<td></td>
</tr>
<tr>
<td>departments in counsel with department</td>
<td></td>
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<tr>
<td>chairman.</td>
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<tr>
<td>Mountaineering</td>
<td>234-235</td>
</tr>
<tr>
<td>Practicum in Outdoor Education</td>
<td>272</td>
</tr>
<tr>
<td>Campcraft and Management</td>
<td>343</td>
</tr>
<tr>
<td>Leadership in Campcraft</td>
<td>403</td>
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<tr>
<td>Community Recreation</td>
<td>342</td>
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<td>Electives</td>
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Required Cognates:

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>General Biology</td>
<td>Bio. 101, 102, 103</td>
</tr>
<tr>
<td>Ornithology</td>
<td>Bio. 403</td>
</tr>
<tr>
<td>General Entomology</td>
<td>Bio. 405</td>
</tr>
<tr>
<td>Systematic Botany</td>
<td>Bio. 426</td>
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<tr>
<td>Mammology</td>
<td>Bio. 444</td>
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<tr>
<td>Astronomy</td>
<td>Phys. 241</td>
</tr>
<tr>
<td>Fine Arts (see p. 43)</td>
<td></td>
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<tr>
<td>Adolescent Psychology</td>
<td>Psych. 440</td>
</tr>
<tr>
<td>Child Psychology</td>
<td>Psych. 435</td>
</tr>
<tr>
<td>General Sociology</td>
<td>Soc. 204, 205</td>
</tr>
<tr>
<td>Fundamentals of Speech</td>
<td>Comm. 101-102</td>
</tr>
<tr>
<td>Oral Interpretation</td>
<td>Comm. 211</td>
</tr>
<tr>
<td>Play Direction</td>
<td>Comm. 365</td>
</tr>
</tbody>
</table>

The above emphasis does not prepare the student for a teaching position. Should the student desire teaching certification, additional courses must be taken in counsel with the department chairman.

A minor in biology, psychology, or sociology is recommended.

MINOR REQUIREMENTS IN PHYSICAL EDUCATION:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to PE</td>
<td>181</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Foundations of PE</td>
<td>422</td>
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<tr>
<td>Professional Activities</td>
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<tr>
<td>Administration of PE</td>
<td>451</td>
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<tr>
<td>Electives in the elementary or secondary</td>
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<td>areas to be chosen in counsel with the</td>
<td>10</td>
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<td>department chairman.</td>
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27
HEALTH, PHYSICAL EDUCATION, AND RECREATION

HEALTH

The courses in health are offered with the objective of preparing elementary and secondary school teachers, physical education instructors, health educators, nurses, and social workers to cope competently with health problems in school and community and to teach health principles and practices effectively.

MINOR REQUIREMENTS IN HEALTH:

Contemporary Health Issues 110 2
Community Health Education 266 3
Health Behavior Change (for those taking 437)
   or 281 2
School Safety 282
First Aid 283 2
School Health Programs 351 3
Elementary School Health Instruction 431
   or
Secondary School Health Instruction 432 3
   or
Field Training 437

Electives 12
To be chosen in counsel with the department chairman.

Physiology Bio. 203 5
Human Nutrition HEc. 220 3
Marriage and Family Life Soc. 230 2
Social Welfare as a Social Institution Soc. 321 3
Child Psychology Psych. 435 3
Adolescent Psychology Psych. 440 3
Drugs and Society H&PE 220 2
Health Education in Church Programs H&PE 352 3
Physiology of Exercise H&PE 363 3
Independent Study H&PE 477, 478, 479 1-3

PHYSICAL EDUCATION

181. INTRODUCTION TO PHYSICAL EDUCATION. A theory course outlined to provide a basic orientation to the field of physical education. A brief survey of the philosophy and objectives as well as the professional opportunities and responsibilities of the physical educator. Two credits.

187, 188, 189. PROFESSIONAL ACTIVITIES I. Methods, techniques, and the skills involved in tumbling and gymnastics. Courses 187, 188 must be taken in sequence. The third quarter is Track and Field activities. Two credits each quarter.
230. **WATER SAFETY INSTRUCTOR’S COURSE.** This course prepares students to meet the requirements of the National Red Cross Certificate to instruct in swimming and supervise in swimming areas. A valuable asset for summer employment. Prerequisite: Lifesaving. Two credits.

232. **SKI INSTRUCTOR’S COURSE.** A course to provide the advanced skiing student with the methods and skills involved in skiing instruction. The student will be required to assist in conducting the various ski classes and will also be eligible for employment as a ski instructor in succeeding years. Two credits.


265. **KINESIOLOGY.** Study of joint and muscular mechanism action of muscles involved in fundamental movements. Effect of gravity and other forces on motion. Prerequisite: 264, or equivalent. Three credits.

273. **CORRECTIVE PHYSICAL EDUCATION.** A study of common abnormalities found in students which may be corrected or helped by proper exercise. Extent and limitations of the teacher’s responsibility in this phase of education. Three credits.

280. **OFFICIATING OF SPORTS ACTIVITIES.** The basic science of officiating in a variety of activities covered in the service areas. Students will be required to act as officials in the intramural activities sponsored by the department. Two credits.

287, 288, 289. **PROFESSIONAL ACTIVITIES II.** Methods, techniques and the skills involved in various activities of the physical education program. Autumn: soccer and football; men will take football, women will take rhythmic activities. Winter: basketball and games of low organization; spring: volleyball and softball. Prerequisite: Student must demonstrate competency in activities to be presented. Two credits each quarter.

295. **INTRAMURAL ACTIVITIES.** The mechanics of organizing the intramural activities in the school program. Two credits.

358. **PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL.** This course deals with the planning of the curriculum in the elementary school and the organization of a balanced activities program. Participation in the elementary school physical education program is required. Three credits.

363. **PHYSIOLOGY OF EXERCISE.** Physiological results of muscular exercise. Prerequisite: Biology 203. Three credits.

381, 382, 383. **PROFESSIONAL ACTIVITIES III.** Methods, techniques, and advanced skills involved in various activities of the physical education program. Autumn: speedball and archery; winter: badminton and recreational games; spring: tennis and golf. Prerequisite: Student must demonstrate competency in activities to be presented. Two credits each quarter.

400. **TOPICS IN PHYSICAL EDUCATION.** The study of advanced topics through class activities. One to three credits per quarter; maximum six credits.
HEALTH, PHYSICAL EDUCATION, AND RECREATION

420. TEACHING TECHNIQUES OF PHYSICAL EDUCATION ACTIVITIES. Techniques of coaching individuals and teams in a variety of sport activities. Laboratory experience in the intramural program as well as class situations will be required. Two credits.

422. FOUNDATIONS OF PHYSICAL EDUCATION. History and theory of physical education. A practical study of the reasons physical education should be included in the school program and the unique contribution it makes to education. Three credits.

423. TESTS AND MEASUREMENTS IN PHYSICAL EDUCATION. A study of various testing devices which may be used in physical education. Practical experience will be given by test administration and scoring. Three credits.

440. COACHING OF TEAM GAMES. A course to assist the prospective physical educator in managing team sports in physical education classes and intramural activities. Lecture and laboratory experience. Two credits.

451. ADMINISTRATION OF PHYSICAL EDUCATION. The student will become conversant with techniques of scheduling, organizing and planning suitable activities. Study is given to purchasing of supplies and equipment, planning and use of facilities, comparative cost and budgeting for the entire health and physical education program as it relates to either the elementary or secondary school depending on the need of the student. Three credits.

472. METHODS OF TEACHING PHYSICAL EDUCATION. A study of the methods and techniques of teaching physical education in both the elementary and secondary schools, indoors and outdoors, individual as well as group activities are stressed. The students are required to observe and demonstrate in classes pertinent to the level in which they plan to teach. Three credits.

477, 478, 479. INDEPENDENT STUDY IN HEALTH, PHYSICAL EDUCATION, AND RECREATION. Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to majors and minors. Permission from the department chairman required. One to three credits any quarter; maximum, three credits.

492, 493. SEMINAR. A study of the modern trends in physical education. Group discussion and presentation of current material in the field. Prerequisite: senior standing. One credit each quarter.

SERVICE COURSES IN PHYSICAL EDUCATION

A wide selection of activities is available for the student. Those unable to pass a basic swimming test will be encouraged to enroll in a swimming class in order to acquire this important skill. At least one quarter of gymnastics is strongly recommended.

100. FUNDAMENTALS OF FIGURE FITNESS. Lecture, various methods of body development, and physical fitness. A class for women providing an opportunity to work with the problems involved in attaining
and maintaining balanced posture. The activity will include exercise for contouring and correction and the techniques which contribute grace and poise to everyday body postures and movement. One credit.

201, 202, 203. INDIVIDUAL ACTIVITIES. Badminton, golf, tennis, skiing and a variety of other individual or dual activities. One credit each quarter.

204, 205, 206. TEAM SPORTS. Activities such as softball, basketball, Touch football, soccer and volleyball. One credit each quarter.

207, 208, 209. WATER SPORTS. Activities from beginning swimming to advanced swimming, lifesaving, spring-board diving and SCUBA diving. Students who register for SCUBA diving or who wish to participate in SCUBA diving must obtain a health certificate from the Health Service before participating in any of the activities. One credit each quarter.

211, 212, 213. TUMBLING, GYMNASTICS. Courses in tumbling, gymnastics, weight-lifting and body mechanics are available in this group. One credit each quarter.

HEALTH

110. CONTEMPORARY HEALTH ISSUES. A detailed study of current health issues and problems emphasizing modern preventive measures. Two credits.

220. DRUGS AND SOCIETY. A study of the effects of drugs, including the narcotics and alcohol; their relationship to social problems. Two credits.

266. COMMUNITY HEALTH EDUCATION. The role of the health educator in the community, including his relationship to both public and private health agencies; emphasis given to the prevention of disease and the promotion of health through organized community effort. Three credits.

281. HEALTH BEHAVIOR CHANGE. A study of behavioral change in health practices. Utilization of group processes and basic behavioral science concepts, relating them to learning and motivation in the health field. Two credits.

282. SCHOOL SAFETY. Prevention of accidents found in various school situations with special emphasis on care of injuries associated with playground and gymnasium activities. Two credits.

283. FIRST AID. Standard and advanced American Red Cross first aid including the civil defense medical self-help course. This course prepares the student to deal effectively with minor emergencies and injuries. Two credits.

351. SCHOOL HEALTH PROGRAM. The purpose of this course is to develop a sound philosophy of the entire school health program and a concern for its attainment. Recognition of health problems and how to deal with them is emphasized. Three credits.

352. HEALTH EDUCATION IN CHURCH PROGRAMS. The planning, implementation and evaluation of church-sponsored health programs. Three credits.

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HEALTH, PHYSICAL EDUCATION, AND RECREATION

431. ELEMENTARY SCHOOL HEALTH INSTRUCTION. Concepts of unit planning, methods, techniques, sources and evaluation of materials for use in elementary schools are studied. Students are required to read widely and collect material pertinent to the course. Three credits.

432. SECONDARY SCHOOL HEALTH INSTRUCTION. Concepts of unit planning, methods, techniques, sources and evaluation of instructional materials for secondary schools are studied. Students are required to read widely and collect material pertinent to the course. Three credits.

437. FIELD TRAINING. Supervised field experience in community and church health education. Prerequisite: 266 or 352. Three credits.

RECREATION

234-235. MOUNTAINEERING AND WILDERNESS TRAVEL. A course for the individual interested in making the outdoor world his primary hobby. Basics in mountain climbing, survival, and essentials of wilderness travel are covered. One class lecture per week, and field trips will be arranged. One credit each quarter.

240. CERAMICS. This course is offered to help plan the leisure time activity of young people as well as to prepare for a hobby. Two credits.

250. LAPIDARY. This course is offered to help plan the leisure time activity of young people as well as to prepare for a hobby. Two credits.

272. PRACTICUM IN OUTDOOR EDUCATION. A four-week program providing controlled stressful application of outdoor skills in a natural wilderness setting under qualified leadership. This program, known as Mission Possible (MiPo), places emphasis on self-discovery and reassessment of the individual's approach to life with assistance from persons trained in counseling. Four credits.

342. COMMUNITY RECREATION. A course intended to fill the need for leadership in planning a balanced recreational program in the church or community for all age groups. Three credits.

343. CAMP CRAFT AND MANAGEMENT. A course to help in the preparation of competent summer camp leaders. Two lectures per week, and a four-day camping experience. Three credits.

350. AQUATICS. A course to give an overview of the entire aquatics program. It will include such items as boating, sailing, canoeing, surfing, water-skiing, etc. Legislation concerning the use of our water resources for recreational purposes will also be included. One lecture per week—Sunday lab. Three credits.

403. LEADERSHIP IN CAMPING AND CAMP CRAFT. A class for those interested in advanced work in this field. These students will act as laboratory instructors for those in course 343. Prerequisite: 343 and permission of instructor. Two credits.

410. ADVANCED CERAMICS. An advanced course in ceramics with special emphasis on teaching methods, preparation of teaching aids, sources of material, cost, etc. Two credits.

430. ADVANCED LAPIDARY. An advanced course in lapidary with special emphasis on teaching methods, preparation of teaching aids, sources of material, cost, etc. Two credits.
HISTORY, POLITICAL SCIENCE AND SOCIOLOGY


The department offers majors in history and sociology, and minors in history, political science, and sociology.

HISTORY

The purpose of the work in history is fourfold: to promote a better understanding of the past and an appreciation of the present; to broaden the cultural outlook and formulate a constructive philosophy of history and of life; to train in skills of research and evaluation; to prepare students for teaching, graduate and professional schools, and government service.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>History of Western Civilization</td>
<td>101, 102, 103</td>
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<tr>
<td>History of the United States</td>
<td>201, 202, 203</td>
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<tr>
<td>Seminar</td>
<td>491-492</td>
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<tr>
<td>Electives</td>
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</table>

9 credits must be from the European area; and 9 credits from the American area; 9 credits may be selected from:

- Political Science 203; 303, 304; 311; 401; 402; 414, 415, 416; 424, 425, 426
- Sociology 204, 205; 245; 254; 263; 337; 351; 358; 359
- Business 221, 222, 223; 323; 422; 423; 427

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MINOR REQUIREMENTS IN HISTORY:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>History of Western Civilization</td>
<td>101, 102, 103</td>
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<tr>
<td>History of the United States</td>
<td>201, 202, 203</td>
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<tr>
<td>Electives</td>
<td>(9 credits must be upper-division)</td>
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COURSES

BASIC

101, 102, 103. HISTORY OF WESTERN CIVILIZATION. A survey of European history from antiquity emphasizing the period since the Renaissance. Three credits each quarter.

201, 202, 203. HISTORY OF THE UNITED STATES. A survey of the colonial period, followed by a more detailed study of the national period. Three credits each quarter.

EUROPEAN HISTORY

377, 378, 379. HISTORY OF ENGLAND. The development and expansion of the English nation from the earliest times to the present. Two credits each quarter.

391. CHINA AND JAPAN SINCE 1800. China and Japan during the 19th century imperialism and their responses to Western domination during the 20th century. Four credits.
435, 436. HISTORY OF MODERN GERMANY. A survey of German history since 1870. Diplomatic, political, socio-economic, and ideological developments in Imperial, Weimar, Nazi, and post-World War II Germany, with special emphasis on the German Question resulting from World War II. Prerequisite: 101, 102, 103. Three credits each quarter.

461. ANCIENT MEDITERRANEAN CIVILIZATIONS. A study of the major civilizations of antiquity to the decay of the Roman empire. Three credits.

462. EARLY MIDDLE AGES. A survey of the religious, political, socio-economic, and intellectual developments in the European-Mediterranean world from the disintegration of the Roman empire to the 11th century. Three credits.

463. THE LATE MIDDLE AGES. The general revival of the 11th century to the beginnings of the Italian Renaissance. Three credits.

464. THE RENAISSANCE. The political, economic, intellectual, and artistic transformation of Europe between the 14th and 16th centuries. Three credits.

465. THE REFORMATION. Europe, 1500-1648. The era of the Protestant Reformation, Catholic reaction and reform, and religious wars. Three credits.

466. AGE OF ABSOLUTISM AND ENLIGHTENMENT, 1648-1789. A study of the institutions of the “Old Regime” and their relationship to Enlightenment philosophy. Three credits.

467. THE CRUCIBLE OF REVOLUTION, 1789-1815. An examination of Europe’s late 18th century revolutions with special attention to the French revolution and Napoleon. Three credits.

468. THE MODERN TRANSITION, 1815-1914. Political, social, economic, and intellectual transformation of Europe during the era of industrialization. Three credits.

469. INTERWAR EUROPE, 1914-1945. Europe between the two world wars with emphasis on totalitarianism and the intellectual crisis. Three credits.

470. CONTEMPORARY EUROPE, 1945 TO THE PRESENT. Post-World War II political, economic, and cultural developments. Three credits.

474, 475, 476. HISTORY OF RUSSIA. Beginning with Kievan Russia, the course traces the emergence and expansion of the Muscovite state, Imperial Russia, social, intellectual and political developments leading up to the Russian Revolution, and the history of the Soviet Union to the present. Three credits each quarter.

AMERICAN HISTORY

387, 388, 389. HISTORY OF LATIN AMERICA. A survey of the colonial period, followed by a more detailed study of the development of the individual Latin American nations and their world relationship. Two credits each quarter.

424, 425. THE AMERICAN FRONTIER. The exploration, settlement, and development of the American west with consideration given to economic, social, cultural, and political factors. Three credits each quarter.

446. HISTORY OF THE PACIFIC NORTHWEST. A course in regional history from the age of discovery to contemporary times including the fur traders, the missionaries, international rivalries, the territorial period, and developments since statehood. A study of the State Manual of Washington is included. Three credits.

447, 448, 449. THE MAKING OF MODERN AMERICA SINCE 1877. A study of maturing America from 1877 to the present. Special attention is given to the significance of industrialism, urbanization, the Progressive Movement, the New Deal, prosperity and depression, and the expanding role of the United States in world affairs. Prerequisite: 201, 202, 203. Three credits each quarter.

457, 458, 459. SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES. An analysis of the major social and intellectual trends in United States history, including Puritanism, the Enlightenment, Transcendentalism, Social Darwinism and Pragmatism. Prerequisite: 201, 202, 203. Three credits each quarter.

GENERAL

358. WORLD GEOGRAPHY. A survey course of the major groups of natural regions. Essentially human geography, but with adequate attention to economic and physical aspects. Will not apply to a history minor. Three credits.

400. TOPICS IN HISTORY. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

471. METHODS OF TEACHING SOCIAL SCIENCE. Methods and techniques of teaching social studies on the secondary school level. Observation, demonstration, and class presentation are required of the students as a part of this course. Will not apply on a major or minor in history, political science or sociology. Three credits.

477, 478, 479. INDEPENDENT STUDY IN HISTORY. Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to majors and minors. Instructor's approval required. One to three credits any quarter; maximum, three credits.

491-492. SEMINAR. An orientation and research course in problems connected with historical materials and methods. Open to majors and minors. Two credits each quarter.

POLITICAL SCIENCE

The objective of the courses in political science is to present techniques and materials with which to analyze governmental systems, diplomacy and international relations, and theories of political power. Students are prepared for careers in teaching, law, government, and church service.
MINOR REQUIREMENTS IN POLITICAL SCIENCE:

American Government 203 3
Comparative Governments 303, 304 6
Constitutional History 401 3
Electives (3 credits must be in history; department chairman’s approval required.) 15

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COURSES

203. AMERICAN GOVERNMENT. Principles, organization and development of the American national government. Three credits.

303, 304. COMPARATIVE GOVERNMENTS. A comparative study of political institutions, ideologies, and processes in modern and developing areas. Will include intensive analytical and critical study of theories of authority, with particular emphasis on problems of values in the political thought of communist, fascist, Catholic, socialist and democratic theories. Three credits each quarter.

311. INTERNATIONAL ORGANIZATION. The organization of interaction among nations, institutional structures, patterns of communications, processes of collaboration and integration; special attention to the United Nations and to problems arising from the UN system. Three credits.

400. TOPICS IN POLITICAL SCIENCE. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

401. CONSTITUTIONAL HISTORY. Theory and practice of constitutional government in the United States. Formation of the constitution, federal court system, separation of powers, judicial review, congressional and presidencial authority; exclusive national and concurrent state powers; emphasis on nature of legal reasoning and judicial practice. Three credits.

402. WORLD POLITICS. Systematic analysis of the nature of international society, and of the motivating and conditioning factors which explain interaction among states and other international entities. Three credits.

414, 415, 416. AMERICAN DIPLOMATIC HISTORY. The relation of the United States to world politics; analysis of problems involved in the formulation of foreign policies from colonial times to the present. May apply in history as well as political science. Two credits each quarter.

424, 425, 426. POLITICAL HISTORY AND THEORY. Origin and evolution of major concepts in Western political thought from Pericles to Machiavelli, from Machiavelli to Edmund Burke, and from the American colonial times to the present. Three credits each quarter.

477, 478, 479. INDEPENDENT STUDY IN POLITICAL SCIENCE. Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to minors. Instructor’s approval required. One to three credits any quarter; maximum, three credits.
HISTORY, POLITICAL SCIENCE AND SOCIOMETRY

SOCIOLOGY

The objective of the study of sociology is to broaden the student's perspective of the overall organization and function of society. The purposes include the providing of a general background for employment in social welfare, corrections, law enforcement, and related fields; for teachers of social science; and for admittance to graduate school.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

General Sociology 204, 205 6
Cultural Anthropology 263 3
Family in Society 310 2
Social Welfare as a Social Institution 321 3
Sociology of the Community 351 3
History of Sociological Thought 464, 465 6
Methods of Social Research 466 3
Electives up to 9 credits may be chosen from: 19

Prin. of Economics Bus. 221, 222, 223 9
Psych. of Excep. Child Psych. 431 3
Child Psychology Psych. 435 3
Adolescent Psych. Psych. 440 3
Motivation Psych. 442 4
Mental Health Psych. 449 3
Modern America Since 1877 Hist. 447, 448, 449 9
American Govt. Pol. Sc. 203 3
Constitutional History Pol. Sc. 401 3
Computer Science I, II Engr. 218, 220 4

Required Cognates:
Elementary Statistics Psych. 350 3
Social Psychology Psych. 444 3
Intro. to Philosophy Rel. 421 2

MINOR REQUIREMENTS IN SOCIOLOGY:

General Sociology 204, 205 6
Cultural Anthropology 263 3
Family in Society 310 2
Social Welfare as a Social Institution 321 3
Intro. to Philosophy Rel. 421 2
Social Psychology Psych. 444 3
Electives (3 credits must be upper-division) 11

SOCIAL WELFARE AND CRIMINAL JUSTICE PROGRAMS

The student planning a career in social work should select courses in social welfare within the offerings of the sociology program. At the student's request, this social welfare emphasis will be indicated by a letter from the registrar accompanying the transcript.

The student planning to go into the field of corrections, law enforcement, and criminal justice is advised to select carefully the appropriate
courses within the sociology major. Some financial aid may be available for those students who meet the requirements under the Law Enforcement Education Program (LEEP). Application for such aid must be presented to the student finance counselor at the beginning of the school year after the student has worked out his program of studies with his adviser in the department. At the student's request, the corrections emphasis will be indicated by a letter from the registrar accompanying the transcript.

COURSES

SOCIOLOGY

204, 205. GENERAL SOCIOLOGY. A course dealing with the fundamentals of group behavior, social conditions, and dynamics. Attention is also given to such phases as culture, groups, population trends, religions, institutions, social problems, theories and objectives. Must be taken in sequence. Three credits each quarter.

230. MARRIAGE AND FAMILY LIFE. A course designed to help a student make the physical, economic, and psychological adjustments necessary for happy marriage and parenthood; Christian philosophy and principles will be stressed; staff members and guest speakers will lecture and lead discussions. Will not apply on a major or minor in history. Two credits.

245. CURRENT SOCIAL PROBLEMS. The course deals with the dimensions of social problems as to role, status, stress, the ethical and intellectual implications of twentieth century material abundance with the consequent social pathologies, and such problems as adolescence, courtship and family, present conditions of the underprivileged, race, and community changes. Three credits.

254. RACIAL AND ETHNIC RELATIONS. The history, present status and problems of racial, religious and ethnic minorities in the United States and other countries. Three credits.

263. CULTURAL ANTHROPOLOGY. A study of the origin and nature of culture, the uniformities and variations in man's cultural development as seen in pre-literate societies, with special emphasis upon the value of the cultural concept. Prerequisite: 204, 205. Three credits.

310. THE FAMILY IN SOCIETY. The student is introduced to problems confronting the family as a unit of society in modern life, including comparison of problems of an American family with those of other cultures. Two credits.

337. POPULATION. Principles of demography and analysis of population problems. Prerequisite: 204, 205. Two credits.

351. SOCIOLOGY OF THE COMMUNITY. Analysis of community development and structure; consideration of both rural and urban communities with special emphasis on urbanization and suburbanization. Prerequisite: 204, 205. Three credits.

369. URBAN SOCIOLOGY. Review and analysis of recent research on urban areas, including their social organization, culture and subcultures, institutions, and contemporary problems. Field trips arranged. Three credits.
400. **TOPICS IN SOCIOLOGY.** The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

431. **SOCIOLOGY OF EDUCATION.** Analysis of factors influencing the structure and function of the educational institution. Sociological factors related to the role of the school as a social system, with emphasis on peer groups and teenage subcultures, leadership types, power groups and the school as a selecting and sorting agency; sociometric devices. Two credits.

432. **SOCIOLOGY OF RELIGION.** A sociological approach to organized religion, emphasizing the interaction between the church and its social setting. Varieties and sources of collective religious behavior with examination and classification of religious movements and reforms. Prerequisite: 204, 205. Two credits.

464, 465. **HISTORY OF SOCIOLOGICAL THOUGHT.** History of sociological thought since earliest times including a study of early social writers and leading sociologists of the 19th and 20th centuries, including Comte, Malthus, Marx, Spencer, Durkheim, Weber, and others. Three credits each quarter.

466. **METHODS OF SOCIAL RESEARCH.** Application of sociological concepts and methodology to the investigation of social problems. Prerequisites: Senior standing, 204, 205; Education 350. Three credits.

477, 478, 479. **INDEPENDENT STUDY IN SOCIOLOGY.** Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods and present a paper showing competence in and extent of his study. Open only to majors and minors. Instructor's approval required. One to three credits any quarter; maximum, three credits.

**SOCIAL WELFARE**

200. **INTRODUCTION TO SOCIAL WELFARE.** The profession of social work in the United States; principles, methods, and values of the social worker; settings for social work practice. Observations and field trips arranged. Three credits.

321. **SOCIAL WELFARE AS A SOCIAL INSTITUTION.** Historical development of the current social welfare system, legal and political premises of social welfare, humanistic and democratic values of society, and its implications for social welfare policy. Prerequisite: 200. Three credits.

322. **SOCIAL WELFARE IN THE COMMUNITY.** The legal and social factors involved in social welfare; techniques and skills used by professional workers in the various agencies to help people meet their needs in society. Prerequisite: 321. Three credits.

330. **FIELD WORK.** Training under a professional worker in a public or private welfare or correction agency. Credit is earned at the rate of one credit hour for three hours of field work per week approved by the supervisor and instructor. Written reports and evaluations are included. Prerequisites: 204, 205, 321, 322 and permission of the instructor. Only four credits may be applied to a sociology minor. Two, four or six credits; maximum, six credits.
HISTORY, POLITICAL SCIENCE AND SOCIOLOGY

452. CHILD WELFARE. Historical and contemporary aspects of problems affecting children and the welfare services assigned to deal with these problems. Three credits.

453. SOCIAL CONCEPTS OF GERONTOLOGY. Presentation of major concepts, findings, and unresolved issues in the psychological and social determinants of aging. Such issues include similarities and differences among ethnic groups that can be identified in the patterns of aging; organization of social institutions in relation to the impact on these individuals. Three credits.

CORRECTIONS, LAW ENFORCEMENT, AND CRIMINAL JUSTICE

220. INTRODUCTION TO LAW ENFORCEMENT AND CRIMINAL JUSTICE. Philosophy and history of law enforcement; overview of crime and police problems; agencies involved in administration of criminal justice; processes of justice from detection of crime to parole of offender; evaluation of modern police services; survey of professional career opportunities and qualifications required. Observations and field trips arranged. Three credits.

358. CRIMINOLOGY. A study of the historical background of crime and factors of deviant social behavior; a survey of criminological theories to analyze contributing factors and evaluate remedial measures now in common use. Visits to agencies and institutions arranged. Two credits.

359. JUVENILE DELINQUENCY. A study of factors in delinquency, juvenile courts, detention and probation; an investigation and comparison of programs of treatment and prevention as well as the study of the role of volunteer service. Field trips arranged. Two credits.

433. SOCIOLOGY OF LAW. A general treatment of the social origins and consequences of law and legal process. Special emphasis is placed on problems of legal change and on the structure and functioning of legal sanctions. Social conditions affecting the administration of justice; role of social science in jurisprudence. Two credits.
HOME ECONOMICS

Evelynne Wright, Chairman; Lora Lee Long, Mary Schwantes.

The major in home economics is designed for the general college student and for those preparing to teach. Students who wish to teach should also plan to meet certification requirements.

The major in foods and nutrition meets the requirements of the American Dietetic Association and prepares the student to enter a dietetic internship.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

Major: Home Economics

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<th>Course</th>
<th>Credits</th>
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<tr>
<td>Introduction to Home Economics</td>
<td>100</td>
</tr>
<tr>
<td>Principles of Food Science</td>
<td>101, 102</td>
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<td>Meal Management</td>
<td>103</td>
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<tr>
<td>Social and Professional Ethics</td>
<td>210</td>
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<tr>
<td>Human Nutrition</td>
<td>220</td>
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<tr>
<td>Art in Everyday Living</td>
<td>222, 223</td>
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<tr>
<td>Clothing Selection &amp; Construction</td>
<td>242, 243</td>
</tr>
<tr>
<td>Household Management</td>
<td>346</td>
</tr>
<tr>
<td>Child Development</td>
<td>382</td>
</tr>
<tr>
<td>Methods of Teaching Home Economics</td>
<td>471</td>
</tr>
<tr>
<td>Seminar</td>
<td>493</td>
</tr>
<tr>
<td>Electives, upper division</td>
<td></td>
</tr>
<tr>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

Required Cognates:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiology</td>
<td>Bio. 222</td>
</tr>
<tr>
<td>Intro. Chemistry I</td>
<td>Chem. 101-102-103</td>
</tr>
<tr>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

(Students presenting one secondary unit of chemistry with laboratory may be exempt from this requirement.)

Minor:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Food Science</td>
<td>101, 102</td>
</tr>
<tr>
<td>Meal Management</td>
<td>103</td>
</tr>
<tr>
<td>Human Nutrition</td>
<td>220</td>
</tr>
<tr>
<td>Clothing Selection &amp; Construction</td>
<td>242</td>
</tr>
<tr>
<td>Seminar</td>
<td>493</td>
</tr>
<tr>
<td>Electives (to be chosen in counsel with</td>
<td>14</td>
</tr>
<tr>
<td>the department chairman.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:

Major: Foods and Nutrition

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Home Economics</td>
<td>100</td>
</tr>
<tr>
<td>Principles of Food Science</td>
<td>101, 102</td>
</tr>
<tr>
<td>Meal Management</td>
<td>103</td>
</tr>
<tr>
<td>Human Nutrition</td>
<td>220</td>
</tr>
<tr>
<td>Institution Food Preparation</td>
<td>286</td>
</tr>
</tbody>
</table>

120
HOME ECONOMICS

Child Development 382 3
Community Nutrition 437 3
Advanced Nutrition 442 3
Diet in Disease 443 3
Institution Management 448 3
Methods of Teaching Home Economics 471 3
Seminar 493 1
Electives, including 2 upper-division 9

Required Cognates:
Course work as specified by the American Dietetic Association in biology, business, chemistry, and education.

COURSES

100. INTRODUCTION TO HOME ECONOMICS. Orientation in the areas of home economics and a study of the field in terms of history, philosophy and professional opportunities. Required of all majors. Two credits; autumn.

101, 102. PRINCIPLES OF FOOD SCIENCE. Basic principles of food preparation, purchasing and selection, with emphasis on nutritional and economic values. Prerequisite: 101 or equivalent for 102. Three credits; autumn, winter.

103. MEAL MANAGEMENT AND TABLE SERVICE. Managerial aspects of planning, preparing and serving food for family meals and special occasions. Prerequisite: 101, 102 or equivalent. Three credits; spring.

201. EQUIPMENT. Selection, operation and care of household and institutional appliances, electricity in the home and kitchen planning. Three credits; spring.

210. SOCIAL AND PROFESSIONAL ETHICS. A course designed to develop an understanding of the current social code for both men and women and to provide experience in its application to college life, home and community living. Acceptable modes of interacting in social and professional situations are presented. Two credits; autumn, winter or spring.

220. HUMAN NUTRITION. A study of the principles of nutrition and the diet essential for promoting a high degree of physical fitness. A valuable course for the general student, especially those preparing for the ministry, teaching or physical education. Three credits; autumn, winter or spring.

221. CONSUMER ECONOMICS. A study of the consumer in the current world; his responsibilities and protection. Three credits; autumn.

222, 223. ART IN EVERYDAY LIVING. Introduction in the use of art elements giving consideration to line, form and color as applied in the fundamental principles of design and the various aspects of the home, clothing and everyday living. Problems in selecting and designing. Must be taken in sequence. Three credits; winter, spring.

230 Soc. MARRIAGE AND FAMILY LIFE. See the department of history, political science, and sociology. Two credits.
241. **CLOTHING FUNDAMENTALS.** A course presenting the fundamental processes of hand and machine sewing; construction and selection of simple garments. Three credits; autumn.

242, 243. **CLOTHING SELECTION AND CONSTRUCTION.** Aims to develop good taste in dress and to give an appreciation in selection of clothing from standpoint of beauty, health, and economy; pattern alterations, fitting problems and use of commercial patterns; construction of garments using cotton, wool, rayon and other materials; consideration of fabrics to determine fundamental differences and to develop judgment in buying clothing. Prerequisite: 241 or equivalent. Three credits; winter, spring.

269. **TEXTILES.** A study of fabrics to determine fundamental differences and to develop judgment in buying clothing and home-furnishing materials. Two credits; spring.

286. **INSTITUTION FOOD PREPARATION.** Instruction and laboratory experience in large quantity food preparation, and food cost control. Check with instructor before registering for this class. Three credits; autumn.

302. **WEAVING AND HOME FURNISHINGS.** The study of the development of weaving, color harmonies and design as applied to fabrics. Construction of hand-woven materials; tailoring draperies, bedspreads and slip covers. Open to upper-division students only. Three credits; winter.

346. **HOUSEHOLD MANAGEMENT.** Fundamental concepts in the management of family resources, time, energy, income and the use of credit. A theory course supplemented with a practical problem in the community. Three credits; winter.

382. **CHILD DEVELOPMENT.** A study of the care and development of young children, with special reference to home education and nutrition. Three credits; spring.

400. **TOPICS IN HOME ECONOMICS.** The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

403. **TEXTILE DESIGN.** Study of line, texture, and color as applied to weaving. Emphasis on originality in construction and color combinations of hand-woven fabrics. Prerequisite: 302 or equivalent. Three credits; spring.

412. **ADVANCED FOOD PREPARATION.** Preparation of regional and national foods emphasizing cultural, ethnic and environmental factors. Application of scientific principles in specialized food preparation. Prerequisite: Adequate background in food preparation. Three credits; winter.

422. **EXPERIMENTAL COOKERY.** Development of experimental methods; their application of investigations in cookery and the skills involved; acquaintance with the literature in this field; preparation of the student for independent investigations in foods. Prerequisite: 101, 102, 103, and Chemistry 101-102-103 or 161-162-163 or equivalent. Three credits; spring.

424, 425. **INTERIOR DECORATION.** A study of period furniture and the decorative arts of the past as a background for an understanding of what is good, true and beautiful in home decoration; instruction in and application of the principles governing the selection of furnishings for the home and their arrangement with appropriate backgrounds. Must be
taken in sequence unless by permission of instructor. Three credits; autumn, winter.

437. COMMUNITY NUTRITION. Survey of current community nutrition problems and of programs designed to alleviate the problems; food habits of population groups which have a high incidence of malnutrition; and implications of fad diets. Field experience required with this course. Prerequisite: 220 or permission of instructor. Three credits; autumn.

442. ADVANCED NUTRITION. A scientific study of nutrition involving digestion and metabolic processes and products; selection of an optimum diet for health; recent investigations of nutritional deficiency diseases. Prerequisites: 101, 102, 103; 220 and Chemistry 101-102-103 or 161-162-163. Three credits; winter.

443. DIET IN DISEASE. Recent development in the dietary treatment of disease in which nutrition plays a major role. Experience in independent use of journal literature in the field. Prerequisite: 101, 102, 103, 220 or equivalent. Three credits; spring.

447. INSTITUTION FOOD PURCHASING. Marketing operations, buying procedures, food selection and care. Inspection of merchandise at markets and wholesalers. Check with instructor before registering for this course. Three credits; winter.

448. INSTITUTION MANAGEMENT. Principles of organization, qualifications for institution managers, planning of work, and budget analysis. This course offers practical work in the school cafeteria for those who are interested in being managers in institution food services. Field experience is included in this course. Prerequisite: 286 or permission of instructor. Three credits; spring.

461-462. TAILORING. Principles involved in making suits and coats for women. Open only to those who show skill in construction of garments. Students should provide themselves with material for making coats the autumn quarter. Prerequisite: 241, 242, 243 or equivalent. Two credits; autumn, winter.

471. METHODS OF TEACHING HOME ECONOMICS. The principles and practices of teaching home economics on the elementary and secondary levels, as well as adult education classes. Special attention will be given to the newer methods of presentation in classroom, laboratory and community demonstrations. Observation, demonstration, and class presentation are required of the students as a part of this course. Three credits; autumn.

477, 478, 479. INDEPENDENT STUDY IN HOME ECONOMICS. Directed independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods and present a paper showing competence in and extent of his study. Open only to majors and minors. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits.

486. ADVANCED INTERIOR DECORATION. Advanced study in interior decoration with advice, estimates, and actual work on decorating problems. Should be taken the last quarter of the senior year. Prerequisite: 222, 223; 424, 425 or equivalent. Three credits; spring.

493. SEMINAR. Studies of selected topics and reviews of current literature. Special investigation of problems. One credit; autumn or spring.
INDUSTRIAL EDUCATION AND TECHNOLOGY

C. Trautwein, Chairman; C. Blake, L. Canaday, D. Cowin, K. Gruesbeck, E. Liske.

The purpose of this department is twofold: to provide instruction and experiences for a college major and minor, with or without concentrations in fields of technology, and to prepare teachers of industrial arts. Specific courses are offered in the following areas:

- Automotive
- Depictics
- Electronics
- Graphics
- Industrial Crafts
- Metals
- Woods

Departmental permission must be received to enter any class having a laboratory. Each class meets at least once before its associated laboratory.

MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:

The major for a Bachelor of Science degree may be earned in concentrations A, B, or C below.

A. INDUSTRIAL ARTS TEACHER EDUCATION:

The course requirements listed below offer an opportunity for individual choices. Consult the department chairman for assistance in planning the program.

- Depictics
  - Analysis of Industry: 104, 105; 203 or 209
  - Lettering: 107
  - Wood Products and Processes: 123
  - Machine Tool Practice I: 221-222-223
  - or Welding: 244, 245-246
  - Survey of Electronics: 204, 205, 206
  - or Introduction to Graphic Arts: 231-232
  - Industrial Crafts, electives: 144, 145-146
    - or Minimalic Carpentry: 113; 247, 248, 249 or 262
    - or Fundamentals of Automotive Technology: 224-225-226

- Industrial Arts Design: 101, 102, 103
- Course Construction: 384
- Shop Administration and Planning: 387
- History & Philosophy of Industrial Education: 389
- Independent Study (in supervision): 447
- Senior Problem: 477, 478, or 479
- Electives, upper division: 488
- Approval of the Chairman of the department required: 12
### B. TECHNICS:

Listed below are four programs leading to a Bachelor of Science degree in the fields of: Automotive, Electronics, Maintenance, and Graphics.

#### 1. Automotive Technology

**Required Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamentals of Automotive Technology 101, 102, 103</td>
<td>6</td>
</tr>
<tr>
<td>Analysis of Industry 107</td>
<td>1</td>
</tr>
<tr>
<td>Survey of Electronics 231-232</td>
<td>6</td>
</tr>
<tr>
<td>Small Gasoline Engines 236</td>
<td>2</td>
</tr>
<tr>
<td>Automatic Transmissions 301</td>
<td>3</td>
</tr>
<tr>
<td>Engine Repair and Maintenance 302</td>
<td>3</td>
</tr>
<tr>
<td>Engine Diagnosis and Tune-up 303</td>
<td>3</td>
</tr>
<tr>
<td>Automotive Service 314, 315</td>
<td>6</td>
</tr>
<tr>
<td>Automotive Air Conditioning 356</td>
<td>2</td>
</tr>
<tr>
<td>Shop Administration &amp; Planning 389</td>
<td>3</td>
</tr>
<tr>
<td>Oil Hydraulics 399</td>
<td>3</td>
</tr>
<tr>
<td>Senior Problem 488</td>
<td>1</td>
</tr>
<tr>
<td>Electives chosen from:</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
</tr>
</tbody>
</table>

Technical Drawing 104                                | 3       |
Lettering 123                                         | 2       |
Welding 204, 205, 206                                 | 6       |
Machine Tool Practice I 244, 245-246                  | 6       |
Plastics 248                                          | 2       |
Machine & Tool Maint. 330                             | 1-2     |
Finishing Materials & Meth. 345                       | 3       |
Industrial Materials 366                              | 3       |
Machine Tool Practice II 381, 382, 383                 | 9       |
Independent Study 477, 478, 479, 480                   | 1-6     |
Industrial Practicum 484, 485, 486                     |         |

Two hundred clock hours of approved related work is to be completed during the latter half of the bachelor's program.

The department recommends that a minor be chosen from business, chemistry, economics, mathematics, physics or speech.

#### 2. Electronics Technology

**Required Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Drawing 104</td>
<td>3</td>
</tr>
<tr>
<td>Analysis of Industry 107</td>
<td>1</td>
</tr>
<tr>
<td>Electrical and Electronic Drawing 209</td>
<td>3</td>
</tr>
<tr>
<td>Fundamentals of Electronics 271, 272, 273</td>
<td>12</td>
</tr>
<tr>
<td>Applied Electronics 291</td>
<td>4</td>
</tr>
<tr>
<td>Broadcast Engineering Emphasis:</td>
<td></td>
</tr>
<tr>
<td>Radio Communications 352, 353</td>
<td>14</td>
</tr>
<tr>
<td>Broadcast Techniques &amp; Announcing Sp. 231</td>
<td></td>
</tr>
<tr>
<td>Public Broadcasting or Sp. 352</td>
<td></td>
</tr>
</tbody>
</table>

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INDUSTRIAL EDUCATION AND TECHNOLOGY

Industrial Electronics Emphasis:

Industrial Electronics 371, 372 14
Digital Logic Circuits Engr. 355
Applied Dig. & Analog Syst. 469

TV Systems & Circuit Analysis 411, 412, 413 9
Industrial Practicum 484, 485, 486 2
Senior Problem 488 1
Electives (including 2 upper-
division if Broadcast Engineer-
ing emphasis) chosen from:

Fund. of Mathematics Math. 121, 122 8
General Physics Phys. 211, 212, 213 9
General Physics Lab. Phys. 214, 215, 216 3
Computer Science I Engr. 218 2
Computer Science II Engr. 220 2
Digital Logic Circuits Engr. 355 2
Broadcasting Techniques &
Announcing Sp. 231 3
Sheet Metal 229 2
Machine & Tool Maint. 330 1-2
Radio Communications 352, 353 8
Industrial Electronics 371, 372 8
Shop Administration and
Planning 389 3
Oil Hydraulics 399 3
Applied Dig. & Analog Syst. 469 4
Independent Study 477, 478, 479 1-6

or

Industrial Practicum 484, 485, 486

The department recommends that a minor be chosen from biology,
business, chemistry, economics, journalism, mathematics, physics or speech.

3. Maintenance Technology

Required Courses:

Technical Drawing 104, 105 6
Analysis of Industry 107 1
Welding 204, 205, 206 6
Electrical & Electronic Drawing 209 3
Wood Products and Processes 221-222-223 6
Survey of Electronics 231-232 6
Machine Tool Practice I 244, 245-246 6
Machine & Tool Maintenance 330 2
Finishing Materials & Methods 345 3
Shop Administration & Planning 389 3
Oil Hydraulics 399 3
Senior Problem 488 1
Electives (including 12 upper-division)
chosen from:

Fund. of Automotive Tech. 101, 102, 103 6
Lettering 123 2
Principles of Photography 161 2

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INDUSTRIAL EDUCATION AND TECHNOLOGY

Architectural Drawing 203 3
Sheet Metal 229 2
Small Gasoline Engines 236 2
Art Metals 247 2
Plastics 248 2
Industrial Arts Design 264 3
Applied Electronics 291 4
Applied Photography 362 3
Automotive Air Conditioning 356 3
Industrial Materials 366 3
Industrial Practicum 484, 485, 486 1-6
Other upper-division courses with department approval.

Two hundred fifty clock hours of work in our plant service department is required for each year of attendance at WWC while following this curriculum.

The department recommends that a minor be chosen from business, chemistry, mathematics, or physics.

4. Graphics Technology

Required Courses:

Analysis of Industry 107 1
Introduction to Graphic Arts 144, 145-146 6
Principles of Photography 161 2
Linotype Composition 284-285-286 6
Printing Layout and Design 298 3
Printing Management 305 3
Advanced Letterpress Printing 321-322 6
Offset Lithography 327-328-329 9
Applied Photography 362 3
Shop Administration & Planning 389 3
Advanced Lithography 416 3
Senior Problem 488 1
Electives chosen from:

Technical Drawing 104 3
Bookbinding 113 2
Lettering 123 2
Survey of Electronics 231-232 6
Survey of Ind. Operations 241-242 4
Machine Tool Practice I 244, 245-246 6
Plastics 248 2
Silk Screen Printing 262 2
Industrial Arts Design 264 3
Machine & Tool Maint. 330 1-2
Industrial Materials 366 3
Press Photography 370 1
Independent Study 477, 478, 479 or
Industrial Practicum 484, 485, 486 1-6

The department recommends that a minor be chosen from art, business, chemistry, English, journalism or mathematics.
INDUSTRIAL EDUCATION AND TECHNOLOGY

C. GENERAL:

This concentration offers considerable latitude in selection of courses. A minimum of 63 credits is required (24 of which must be upper-division) and must include the following:

Depictics 104, 105; 203 or 209 9
Senior Problem 488 1

REQUIREMENTS—ASSOCIATE OF SCIENCE DEGREE:

The concentration for an Associate of Science degree may be chosen from the same areas as the Bachelor of Science degree under Section B: Automotive, Electronics, Maintenance and Graphics. No minor is required.

In addition, the following courses must be completed:

General Requirements:

Freshman Composition Eng. 101-102-103 9
Religion 8
Physical Education (Service Courses) 2
Personal Finance Bus. 131 2

Required Cognates:

Fundamentals of Speech Sp. 101-102 4
Survey of Mathematics Math. 111, 112 8

REQUIREMENTS—CERTIFICATE PROGRAM:

A certificate candidate follows a chosen technical program as is shown under section B, Technics, paragraphs 1, 2, 3, or 4 the same as other majors, except that an approved elective is taken in place of Senior Problem, general graduation requirements are waived, and the following substituted:

Religion 101, 102, 103 6
104, 105, 106
201, 202, 203

English 101 3
Speech 101 2

A total of 90 credits from one option including the 11 credits shown above with a cumulative grade-point average of 1.3 is required. Only one certificate program may be followed at a given time. Certificate candidates are admitted with one of the following: High school or academy diploma or equivalent, or 18 years of age. One hundred and fifty clock hours of related work for each quarter of attendance, after the first three with a minimum of 450 hours must be completed before the certificate is awarded. A facsimile copy of the certificate will be provided to aid the student in securing employment. Consult the instructor in charge of the chosen area to work out a specific program involving the necessary electives.

Students entering this program without a high school diploma, who wish to transfer to a two- or four-year curriculum, must complete secondary school including entrance requirements for the program selected.
INDUSTRIAL EDUCATION AND TECHNOLOGY

MINOR REQUIREMENTS IN INDUSTRIAL EDUCATION AND TECHNOLOGY:

Minor: General

Students not planning to teach must complete a minimum of 30 credits including six upper-division credits. Depiotics 104, 105, 203 or 209 is required except when 17 credits of graphic arts are included.

Minor: Industrial Arts Teacher Education

For students planning to teach Industrial Arts, the requirements are as follows:

- Technical Drawing
- Analysis of Industry
- Wood Products & Processes
- One basic “skills” course
  - with lab.
- Course Construction
- Shop Administration & Planning
- Ind. Arts in the Ele. School
  - (for elementary certification)
  - or
- Methods of Teach. Ind. Arts
  - (for secondary certification)
- Independent Study
  - (in supervision)
- Elective

30 or 32

PROFESSIONAL

107. ANALYSIS OF INDUSTRY. A study of organization in industry, union-management relationships, vocational and industrial arts teaching patterns, the place of the Seventh-day Adventist in industry. Limited field trips will be included to both industry and schools. One credit; autumn.

264. INDUSTRIAL ARTS DESIGN. Basic principles of design as applied to the various industrial arts, including theory of color and study of major periods and styles of furniture. Three credits; autumn.

387. COURSE CONSTRUCTION. The course deals with objectives, analysis and selection of content, course of study outline, lesson plans, standards of attainment. Required prior to Directed Teaching. Three credits; autumn.

389. SHOP ADMINISTRATION AND PLANNING. School shop planning, supplies, personnel organization and guidance, and shop management. Required prior to Directed Teaching. Three credits; spring.

400. TOPICS IN INDUSTRIAL EDUCATION AND TECHNOLOGY. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

*439. INDUSTRIAL ARTS IN THE ELEMENTARY SCHOOL. A cross sectional approach for teachers of elementary grades, to those industrial arts offerings that are most likely to occur, including operations involving art metals, leathers, plastics, simple graphics, elementary photography, beginning electronics and special woodwork. Three credits; summer.

*Taught school years ending with even numbers.
INDUSTRIAL EDUCATION AND TECHNOLOGY

447. HISTORY AND PHILOSOPHY OF INDUSTRIAL EDUCATION. Origin and growth of industrial education, emphasizing aims and objectives in the field of education. Three credits; autumn.

472. METHODS OF TEACHING INDUSTRIAL ARTS. Methods and techniques in selection, presentation, and testing content material in industrial subjects. Observation, demonstration, and class presentation are required of the students as a part of this course. Required prior to Directed Teaching. Three credits; winter.

477, 478, 479. INDEPENDENT STUDY IN INDUSTRIAL EDUCATION AND TECHNOLOGY. Supervisory experience for prospective teachers or research problems for technologists and/or prospective teachers. Area to be selected in counsel with department chairman. Prerequisite: lower division work in same area. Six credits maximum from this and/or Industrial Practicum. Autumn, winter, spring.

AUTOMOTIVE

101, 102, 103. FUNDAMENTALS OF AUTOMOTIVE TECHNOLOGY. A study of the automobile with emphasis on construction details and service procedures. Live engines and dry units are used in the laboratory. Autumn: engine units; winter: fuel and electrical system units; spring: power train and chassis units. One class and one three-hour laboratory per week. Two credits; autumn, winter, spring.

236. SMALL GASOLINE ENGINES. A study of construction details and operation of small two- and four-stroke cycle engines. Live engines are used to study mechanical features, service, fuel, lubrication, ignition and cooling systems. Typical engines used are Briggs-Stratton, Jacobsen, Wisconsin, etc. One class and one laboratory per week. Two credits; spring.

301. AUTOMATIC TRANSMISSIONS. Instruction in the operation of planetary gears, fluid drives and hydraulic controls as used in automatic transmissions. Dry units will be used in the laboratory to learn disassembly, reassembly and adjustments to typical automatic transmissions. Two lectures and one laboratory per week. Prerequisite: 103 or equivalent. Three credits; autumn.

302. ENGINE REPAIR AND MAINTENANCE. A study of engine rebuilding operations through disassembly and reassembly. Machining operations such as cylinder reconditioning, valve train servicing, lubrication system servicing, and cooling system servicing will be covered. Engine designs and valve timing will also be considered. Two lectures and one laboratory per week. Prerequisite: 101 or equivalent. Three credits; winter.

303. ENGINE DIAGNOSIS AND TUNE-UP. Instruction in complete engine tune-up and diagnosis using both Sun and Allen test equipment. Meter testing and oscilloscope interpreting will be emphasized. Smog control devices will be studied. Two lectures and one laboratory per week. Prerequisite: 101, 102 or equivalent. Three credits; spring.
314, 315. AUTOMOTIVE SERVICE. Advanced study of the service operations performed in automotive service stations and maintenance shops. Troubleshooting and repair operations will be performed under near-production-shop conditions on the automobile chassis including the power train, brake systems, suspension and wheels and light engine services. Major engine overhaul and body fender repair and painting are excluded. Two lectures and one laboratory per week. Three credits; autumn, spring.

356. AUTOMOTIVE AIR CONDITIONING. Study of principles of refrigeration and requirements of air conditioning for body comfort. Emphasis is on installation and service of compressor, system evacuation, refrigerant replacement, leakage testing, and general service of the entire conditioning system. Two credits; spring.

DEPICTICS

104, 105. TECHNICAL DRAWING. Care and use of instruments; technical sketching, geometry; orthographic, auxiliary and sectional views; production drawings; pictorial views and developments and intersections-application to practical problems with emphasis on visualization and analysis. Must be taken in sequence. Three credits; autumn, winter.

203. ARCHITECTURAL DRAWING. The fundamentals of designing and drawing house plans including area planning, floor plans, elevations, sections, schedules, specifications, and model construction. Prerequisite: 104 or equivalent. Three credits; spring.

209. ELECTRICAL AND ELECTRONIC DRAWING. A specialized course in drafting with emphasis on basic concepts and techniques of delineation of electrical and electronic circuits. Instruction includes schematics, assembly drawings, production illustrations, printed circuitry, inter-connection diagrams, graphs, and charts. One lecture and three two-hour laboratories per week. Prerequisite: 104 or equivalent; and 231 or 271 recommended. Three credits; spring.

ELECTRONICS

231-232. SURVEY OF ELECTRONICS. An introduction to electricity and electronics. Includes study of electrical fundamentals, operation of electric motors and generators, vacuum tubes, transistors and basic electrical and electronic circuits. At the option of the student, laboratory projects may be altered to include preparation for the novice class Amateur Radio license examination. Students who plan to teach electronics are advised to take 271, 272, 273 in lieu of 231-232. Two lectures and one laboratory per week. Three credits; autumn, winter.

271, 272, 273. FUNDAMENTALS OF ELECTRONICS. A comprehensive course in the fundamentals of electronics technology designed for both preparatory electronics teachers and technology majors. Included in the study are DC and AC circuits, resonance, filters, electronic measurements, solid-state devices and introduction to power supply, amplifier, oscillator, and switching circuits. Must be taken in sequence; however, 231-232 may be substituted for 271. Three lectures and one laboratory per week. Four credits; autumn, winter, spring.
INDUSTRIAL EDUCATION AND TECHNOLOGY

291. APPLIED ELECTRONICS. Study and practice of the techniques used in the construction of electronic equipment, electronic circuit analysis, and logical troubleshooting. Two lectures and two laboratory sessions per week. Prerequisite: 231-232 or 271, 272, 273 or equivalent. Four credits; autumn.

352, 353. RADIO COMMUNICATIONS. A study of electronics, radio communications theory and Federal Communications Commission regulations, designed to help the student qualify for FCC licenses through Radio-telephone First Class with endorsement for Radar. Study is given to testing and maintenance of studio and communications equipment. Three lectures and one laboratory per week. Prerequisite: 271, 272, 273 or equivalent, and 291 recommended. Four credits; winter, spring.

371, 372. INDUSTRIAL ELECTRONICS. A study of electronic devices, systems and circuits used in industry for the purpose of heating, measuring, and controlling. A sampling of the topics studied includes magnetic amplifiers, motor-control systems, and latest solid-state devices and circuitry. Three lectures and one laboratory per week. Prerequisite: 271, 272, 273 or equivalent. Four credits; autumn, winter.

411, 412, 413. TELEVISION SYSTEMS AND CIRCUIT ANALYSIS. A study of television transmission principles, the theory and operation of monochrome and color television receiver circuits, community antenna television systems and closed circuit television systems. Special emphasis is given to the use of logical systems and circuit analysis techniques in troubleshooting. Must be taken in sequence. Two lectures and one laboratory. Prerequisite: 271, 272, 273 or equivalent. Three credits; autumn, winter, spring.

469. APPLIED DIGITAL AND ANALOG SYSTEMS. Theory and application of digital and analog systems. Included in study will be computer circuitry, interface devices and physical systems control. Laboratory activity emphasizes construction and troubleshooting techniques. Three lectures and one laboratory per week. Prerequisite: 271, 272, 273 or equivalent and Engineering 355 or equivalent. Four credits; spring.

GRAPHICS

123. LETTERING. Basic principles of proportion and design applied to the formation of the letters of the alphabet for display purposes, with special emphasis on a wide variety of methods and materials. Two credits; spring.

144, 145-146. INTRODUCTION TO GRAPHIC ARTS. Letterpress printing, straight and display composition, typographical design, imposition and simple presswork. Course 144 is prerequisite to 145 unless one Carnegie unit or equivalent is presented from secondary school. Two credits; autumn, winter, spring.

161. PRINCIPLES OF PHOTOGRAPHY. Basic principles involved in both color and black-and-white. Theory and practice of exposure, development, contact printing, and enlarging. Study of various types of equipment. Two credits; autumn.
284-285-286. LINOTYPE COMPOSITION. Care and operation of the linotype machine, study of the assembling, casting, and distributing mechanisms, keyboard practice and composition of straight matter, tabular forms, and display work. Prerequisite: 144, 145-146 or equivalent. Two credits; autumn, winter, spring.

298. PRINTING LAYOUT AND DESIGN. Basic principles of design as applied to composition, layout, and arrangement in printing. Lectures, demonstrations and assigned individual and group projects. Prerequisite: 144, (145-146 recommended). Three credits; winter.

305. PRINTING MANAGEMENT. Operating management of a commercial printing plant, purchasing of equipment and supplies, inventory control, pricing, personnel and production supervision. Three credits; spring.

321-322. ADVANCED LETTERPRESS PRINTING. Hand-fed and automatic presswork, including imposition, makeready, care and operation of equipment for numbering, perforating, scoring, die cutting, folding, and other processes of printing production. Prerequisite: 144, 145-146 or equivalent. Three credits; autumn, winter.

327-328-329. OFFSET LITHOGRAPHY. Laboratory experience in offset photography, plate making, cold type composition, and presswork. Prerequisite: 144, 145-146 or equivalent, and 161 concurrent or equivalent. Three credits; autumn, winter, spring.

362. APPLIED PHOTOGRAPHY. Composition, photochemistry, optics, and advanced study of printing, enlarging and processing of chromatic and monochromatic mediums, with manipulative experience. Camera required. Prerequisite: 161 or equivalent. Three credits; winter.

370. PRESS PHOTOGRAPHY. Experience in commercial photography, embodying shooting, processing, and finishing prints for publication. Prerequisite: 362 or equivalent. One credit; autumn, winter, or spring.

416. ADVANCED LITHOGRAPHY. Opportunity for advanced projects in lithographic printing, with emphasis on duotones, posterization, and process color work. Prerequisite: 327-328-329 or equivalent. Three credits; spring.

INDUSTRIAL CRAFTS

113. BOOKBINDING. Practical basic course in the art and craft of bookbinding, designed to afford the student a comprehensive knowledge of the steps in the process of rebinding books, and allied crafts. Two credits; spring.

*247. ART METALS. Utilization of semi-precious metals to develop skills in metal spinning, and craft work in copper, brass, aluminum, and pewter with processes applied to projects of practical value and artistic merit. Two credits; autumn.

*Taught school years ending with odd numbers.
INDUSTRIAL EDUCATION AND TECHNOLOGY

*248. PLASTICS. An introduction to a variety of operations in plastics involving technical information and experimentation in fundamental manufacturing processes. Two credits; winter.

*249. LEATHERS. Technical information and fundamental operation including tooling, carving, stamping, lacing, modeling, forming, and finishing. Taught alternate years. Two credits; spring.

262. SILK SCREEN PRINTING. Basic screen printing (mitography) including various methods of stencil preparation, types of materials used, and preparation of equipment. Two credits; winter.

METALS

204, 205, 206. WELDING. Autumn, gas welding; winter, arc welding; spring, brazing and braze welding, cutting and specialized welding processes with direct emphasis on production of assigned and student-selected projects. Two credits; autumn, winter, spring.

229. SHEET METAL. Basic principles and practices in sheet metal operations including theory and practical application of design, layout and fabrication. One class and one laboratory per week. Two credits; spring.

241-242. SURVEY OF INDUSTRIAL OPERATIONS. Particularly for predental students and physics majors, but is open to Industrial Education majors and minors who have taken no credits in metals. Both laboratory experiences and class lectures are used to give a broad introduction to manufacturing operations with factors influencing design and production. Two credits; autumn, winter.

*244, 245-246. MACHINE TOOL PRACTICE I. Theory and manipulation of basic machine tools, bench work, hand operations, and machine operations combined with prescribed and student-selected projects. Course 244 is prerequisite to 245 unless one Carnegie unit or equivalent is presented from secondary school. Taught alternate years. Two credits; autumn, winter, spring.

1381, 1382, 1383. MACHINE TOOL PRACTICE II. Advanced processes of turning and hand work together with operations involving milling, shaping, grinding, gear calculation and cutting, with assigned exercises, together with student-selected projects. Prerequisite: 244, 245-246 or equivalent. Taught alternate years. Three credits; autumn, winter, spring.

WOODS

221-222-223. WOOD PRODUCTS AND PROCESSES. An introduction to wood products and processes incorporating use of basic tools and machines as found in the wood industry. Includes planning and construction of simple furniture. Two credits; autumn, winter, spring.

*224-225-226. MINIMALIC CARPENTRY. Application of carpentry fundamentals including actual construction in miniature from architect's plans; laboratory work in framing of rafters and selected architectural sections with full-size lumber. Taught alternate years. Two credits; autumn, winter, spring.

*Taught school years ending with odd numbers.
**Taught school years ending with even numbers.
INDUSTRIAL EDUCATION AND TECHNOLOGY

*341-342-343. FURNITURE DESIGN AND CONSTRUCTION. Design and fabrication of complex furniture including cabinet, door, and drawer construction, special machine operations, jigs and fixtures, and machine adjustment. Prerequisite: 221-222-223 and 264 or equivalent. Course 264 may be taken concurrently. Taught alternate years. Three credits; autumn, winter, spring.

GENERAL

330. MACHINE AND TOOL MAINTENANCE. Methods of care and maintenance of tools, machines, and supplementary equipment. Selection may be made in any field offered. Prerequisite: adequate background in chosen fields. One or two credits; any quarter; maximum, two credits.

†345. FINISHING MATERIALS AND METHODS. Composition and application of finishing materials, selection and care of equipment. Taught alternate years. Three credits; winter.

†366. INDUSTRIAL MATERIALS. Experimental research structured and arranged to involve materials and products of industry. Taught alternate years. Three credits; spring.

399. OIL HYDRAULICS. A study of the principles of pressure and flow, operation of basic hydraulic components, how the various components perform, fundamental hydraulic equipment design, and use and maintenance. Three credits; spring.

484, 485, 486. INDUSTRIAL PRACTICUM. Advanced laboratory work in a chosen area or teaching-aid construction. Select in counsel with departmental instructor involved. Six credits maximum from this and/or Independent Study in Industrial Education and Technology. Prerequisite: lower division work in chosen area. Autumn, winter, spring.

488. SENIOR PROBLEM. A student-selected, department-approved research, experiment, project or a problem to demonstrate ability to perform in the major field of instruction that has been followed, and from which graduation is sought. Satisfactory completion of this course constitutes the department comprehensive requirement for the Associate or Bachelor's degree with an Industrial Education and Technology major. Approximately two quarters are required for completion. Register any quarter of senior year except the last. One credit; autumn, winter, spring.

*Taught school years ending with odd numbers.
†Taught school years ending with even numbers.
JOURNALISM

Roberta Moore, Chairman

The aims of professional courses are to train writers for both newspaper and magazine journalism and to provide an understanding of the place of mass communication in today's world.

The student must realize that if he would succeed in any branch of journalism there is no substitute for a foundation of literary and social studies. Against this background, professional courses provide the training necessary to competent writing and responsible journalism.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

Liberal arts beyond the basic degree requirements
(chosen in counsel with the department chairman)
from three of the following areas: 30

- Business, literature, art and music
- History and political science
- Sociology and psychology
- Science and mathematics
- Religion and philosophy

Professional courses, including

News Writing 164-165-166 9
Electives 21

Required Cognates:

Intro. to Graphic Arts Ind.Ed. 144, 145-146 6
Demonstrate a proficiency in typing.

MINOR REQUIREMENTS IN JOURNALISM:

A minimum of 27 credits, including 3 upper-division.

COURSES

164-165-166. NEWS WRITING. A practical course in gathering news and writing news stories. Short field trips are made to enrich the student's understanding of public affairs and print and broadcast media. Two lectures and one laboratory per week. Three credits each quarter.

264, 265, 266. ADVANCED REPORTING AND NEWS EDITING. A course in reporting public affairs, selecting, preparing, and displaying news. One class period per week, with three-hour laboratory in which students will edit copy, do sample make-up, and headlines. Prerequisite: 164-165-166. Two credits each quarter.

326. MASS COMMUNICATION MEDIA. A consideration of print and broadcast media, with emphasis on ethics, controls and effects. Three credits.

341, 342, 343. MAGAZINE ARTICLE WRITING. Fact writing with analysis of magazine markets, fundamentals of gathering materials for articles and preparation of manuscripts for publication. Two credits each quarter.
351. SEMINAR IN MAGAZINE JOURNALISM. A survey of magazine journalism history in America and of current editorial practices. Individual research projects. Three credits.

352, 353. MAGAZINE EDITING. A course in the practical aspects of editing magazines, including working out a successful editorial formula, selecting articles and illustrations, and planning make-up. Each student will do a term project consisting of planning a new magazine, with prospectus and dummy copy. Prerequisite: 341, 342, 343. Three credits each quarter.

363. PUBLIC RELATIONS. A course in the principles, practices and problems of effective public relations. Emphasis will be given to techniques of press relations, radio and television as they are used in successful public relations programs for organizations or institutions such as schools, hospitals and churches. Three credits.

382. EDITORIAL WRITING. The writing of editorials, interpretive articles, and critical reviews, with a study of these types as found in today's newspaper. Two credits.

383. SEMINAR IN RELIGIOUS JOURNALISM. A survey of the history of religious journalism in America and of current practices. Individual research projects in church news coverage and religious magazines. Three credits.

385, 386. RELIGIOUS WRITING. A course intended to help students who want to write about religion, directly or indirectly. Underscoring a conviction that good religious writing is needed now more than ever, it treats both the problems and methods of the craft. Students will do several types of writing; publication will be encouraged. Three credits each quarter.

400. TOPICS IN JOURNALISM. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

412, 413. NARRATIVE WRITING. A course in the writing of stories. Students will analyze short narratives in current periodicals to see how successful writers handle their material. Three credits each quarter.

417. HISTORY OF JOURNALISM. Consideration of the development of the American press, including such aspects as press freedom and privileges, leaders of the press, and early political and religious organs. Three credits.

426. SCHOOL PUBLICATIONS. A course designed for prospective English teachers who will work with school publications staffs. A study of editorial and business aspects in such publications, with an examination of several school papers and yearbooks. Two credits.

477, 478, 479. INDEPENDENT STUDY IN JOURNALISM. Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to majors and minors. Instructor's approval required. One to three credits any quarter; maximum, three credits.
LIBRARY SCIENCE

E. Mabley, Chairman; M. Gilliland, Shirley Graves, Joy Palmer, Helen Sickler.

The department offers a minor designed to provide the knowledge basic to the organization and management of Learning Resources Centers in elementary and secondary schools.

MINOR REQUIREMENTS IN LIBRARY SCIENCE:

Use of Books and Libraries 100 2
General Reference Sources 271 3
Introductory Cataloging and Classification 286 3
Library Materials for Children 365

or

Literature in the Secondary School Eng. 412
School Library as a Materials Center 382 3
Selection of Library Materials 413 3
Electives 4

In addition to courses from the department one of the following may be used as electives:

Literature in the Elementary School Eng. 411
(strongly recommended for elementary teachers)

Oral Interpretation Comm. 211
Bookbinding I.E. 113
Lettering I.E. 123

Required Cognates:

Methods of Audio-Visual Education Ed. 461 2
Instructional Aids—Production Ed. 462 2
†Elementary School Curriculum Ed. 504

or

†Secondary School Curriculum Ed. 508
A Human Relations Course (as chosen in consultation with department chairman)

100. USE OF BOOKS AND LIBRARIES. Introduction to the Walla Walla College Library; a survey of general reference materials as well as reference sources in various subject fields. Designed primarily for the new student. Two credits.

271. GENERAL REFERENCE SOURCES. Presentation of methods for locating information in the library and a survey of the most commonly used reference sources. Prerequisite: 100 or equivalent. Three credits.

†Available to seniors only.
286. INTRODUCTORY CATALOGING AND CLASSIFICATION. An introduction to principles, techniques, and practices of cataloging and classifying materials for use in instructional materials centers. Laboratory required. Three credits.

291. LIBRARIES AND SOCIETY. Development of the principal types of libraries with discussion of their characteristics and functions; study of current issues and trends in librarianship. Three credits.

353. STORYTELLING. Consideration of the place of storytelling in the educational process; selection, preparation and presentation of diversified material. Two credits.

355. HISTORY OF BOOKS AND PRINTING. Technical and aesthetic aspects of writing and printing from the time of cuneiform writing to the present day; discussion of book production and distribution. Three credits.

365. LIBRARY MATERIALS FOR CHILDREN. An overview designed to develop the ability to choose and describe library materials according to the child's needs, interests and abilities. There will be extensive reading of children's literature from numerous subject areas. Three credits.

382. SCHOOL LIBRARY AS A MATERIALS CENTER. Role of the library within the elementary and secondary school; services to the educational program; methods of organization and management. Three credits.


413. SELECTION OF LIBRARY MATERIALS. Criteria for selecting library materials and appraisal of selection aids; library acquisition policies and methods of building and maintaining collections; survey of current publishing world. Three credits.

461. REFERENCE MATERIALS IN THE SOCIAL SCIENCES. Examination and evaluation of library resources in business and economics, education and psychology, history and geography, political science, and sociology. Prerequisite: 271. Three credits.

464. REFERENCE MATERIALS IN THE HUMANITIES. Examination and evaluation of library resources in the fine arts, literature, philosophy, and religion. Prerequisite: 271. Three credits.

467. REFERENCE MATERIALS IN THE SCIENCES. Examination and evaluation of library resources in the natural sciences, physical sciences, and technology. Prerequisite: 271. Three credits.

472. METHODS OF LIBRARY INSTRUCTION. Techniques of library orientation designed for teachers who plan to instruct students in the use of the school library; demonstration and class presentation are required. Three credits.

477, 478, 479. INDEPENDENT STUDY IN LIBRARY SCIENCE. Directed independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods and present a paper showing competence in and extent of his study. Open only to minors. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits.
483. **ADMINISTRATION OF SCHOOL LIBRARIES.** General principles of administration; application of techniques to the organization and management of the school library. Three credits.

490. **DIRECTED FIELD WORK.** Practical experience in elementary or secondary school libraries under the supervision of qualified librarians. Application must be made during the first two weeks of the quarter prior to the actual field work. One to three credits any quarter; maximum, three credits.

493. **SEMINAR IN SCHOOL LIBRARY PROBLEMS.** Consideration of problems and responsibilities in the selection and use of instruction materials, finances, buildings and equipment, personnel, public relations, and legal structure. Three credits.
MATHMATICS

G. Hare, Chairman; G. H. Gibson, M. Lang, W. Soper, T. Thompson.

The department of mathematics offers two majors leading to baccalaureate degrees. As far as mathematics entrance requirements for both majors are concerned, all students must have a year of algebra and a year of geometry. It is highly recommended that students have at least one additional year of mathematics on the secondary level including approximately one-half semester of trigonometry.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:
A minimum of 47 credits including 351, 352, 353; 411, 412, 413. Other courses require the approval of the department chairman.
May include courses selected from Engineering 218, 220, 226.

MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:
A minimum of 55 credits including 181, 218, 228, 236; 351, 352, 353; 411, 412, 413. The remaining 18 credits must be chosen from upper-division mathematics courses or Engineering 218, 220, 226. Required cognates: Physics 211, 212, 213; 214, 215, 216 and either Biology 101, 102, 103 or Chemistry 161-162-163.

MINOR REQUIREMENTS:
A minimum of 28 credits, including four upper-division credits, chosen in consultation with the department chairman.

COURSES

*99. BASIC MATHEMATICS. An intensive one-quarter review of fundamental concepts of mathematics; designed for students who need review before taking 111. Meets three to five times per week depending upon the student's background in mathematics. Three credits; autumn.

111, 112, 113. SURVEY OF MATHEMATICS. A terminal course in mathematics for nonscience students emphasizing the structure of the number system, elementary number theory, basic concepts of algebra including algebraic structures, and informal geometry. Must be taken in sequence. Will meet the basic requirement in mathematics for the baccalaureate degree, but will not apply on a major or a minor in mathematics. Four credits; autumn, winter, spring.

117. PRECALCULUS. A precalculus course including a study of inequalities, functions, graphs, logarithms, trigonometry, complex numbers, and theory of equations. Five credits; autumn.

121. FUNDAMENTALS OF MATHEMATICS I. A systematic study of the sets of integers, rational numbers, real numbers, and complex numbers; mathematical induction; equations and inequalities; functions and their graphs; systems of equations; binomial theorem; progressions; matrices; determinants. Four credits; autumn or winter.

*See Transitional Curriculum listed under Non-Departmental.
122. **FUNDAMENTALS OF MATHEMATICS II.** Theory of equations, exponential and logarithmic functions, trigonometry. Prerequisite: 121. Four credits; winter or spring.

181. **ANALYTIC GEOMETRY AND CALCULUS I.** An integrated course in which topics of analytic geometry are introduced as needed in developing the topics in calculus. Prerequisite: 117, 122 or a satisfactory score on a departmental qualifying examination. Four credits; autumn, winter or spring.

281. **ANALYTIC GEOMETRY AND CALCULUS II.** A continuation of 181. Four credits; autumn, winter or spring.

282. **ANALYTIC GEOMETRY AND CALCULUS III.** A continuation of 281. Four credits; autumn, winter or spring.

283. **ANALYTIC GEOMETRY AND CALCULUS IV.** A continuation of 282. Four credits; autumn, winter or spring.

293. **LINEAR ALGEBRA AND ITS APPLICATIONS.** Vector spaces, linear transformations, matrices and determinants. Emphasis will be on applications. Three credits; spring.

304, 305. **INTRODUCTION TO THE THEORY OF NUMBERS.** Congruences, continued fractions, Diophantine equations, quadratic residues. Permission of the instructor required. Three credits; winter, spring.

311. **PROBABILITY AND STATISTICS.** Probability, discrete and continuous distribution functions, sampling, correlation, regression, testing of hypotheses. Prerequisite: 283. Four credits; autumn.

312. **ORDINARY DIFFERENTIAL EQUATIONS.** Differential equations of first order, linear differential equations of order n, series solutions, applications. Prerequisite: 283. Four credits; winter.

313. **PARTIAL DIFFERENTIAL EQUATIONS.** Solutions of various types of partial differential equations with emphasis on solutions of boundary value problems. Prerequisite: 312. Four credits; spring.

342, 343. **NUMERICAL ANALYSIS.** Calculus of finite differences, interpolation, iteration, error analysis, matrices, determinants, systems of linear equations, numerical differentiation and integration, numerical solutions of ordinary differential equations. Prerequisites: 312 and Engineering 218. Three credits; winter, spring.

351, 352, 353. **ADVANCED CALCULUS.** Functions, continuity, differentiation, integration, infinite series, differential geometry, and vector calculus. Prerequisite: 283. Three credits; autumn, winter, spring.

411, 412, 413. **MODERN ALGEBRA.** Groups, rings, fields, modules, vector spaces, dual spaces, matrices, matrix algebra, similarity, and linear transformations. Must be taken in sequence. Permission of the instructor required. Four credits; autumn, winter, spring.

423. **INTRODUCTION TO THE THEORY OF COMPLEX VARIABLES.** Functions of a complex variable, the geometry of elementary functions, integration, power series, calculus of residues, and conformal mapping. Prerequisite: 283. Four credits; spring.
471. METHODS OF TEACHING MATHEMATICS. Methods, materials, and techniques of teaching mathematics on the secondary school level. Observation, demonstration, and class presentation are required of the students as a part of this course. Will not apply on a major or minor in mathematics. Three credits; autumn.

477, 478, 479. INDEPENDENT STUDY IN MATHEMATICS. Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to majors and minors. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits.
MODERN LANGUAGES

G. Caviness, Chairman; C. Ayala, R. Czeratzki.

The main objectives of the department are to develop competence in the ability to understand, speak, read and write a foreign language and to provide through the knowledge of foreign languages a deepened understanding and appreciation of the literature and culture of other people.

In order to achieve these ends, foreign language majors are advised to participate in the Adventist Colleges Abroad program and spend at least one school year studying in the native country.

Majors and minors are offered in French, German and Spanish.

Majors planning to teach should confer with their departmental adviser and with the department of education and psychology in regard to certification and teaching credentials.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:
A minimum of 45 credits beyond the elementary course, of these 36 credits must be on the upper-division level with at least one literature course taken in sequence. Required cognate: 471 or English 425. Recommended that basic requirements include Arts and Ideas ND 207, 208, 209 and History of Western Civilization 101, 102, 103.

MINOR REQUIREMENTS:
A minimum of 24 credits beyond the elementary course, 15 of these must be on the upper-division level.

FRENCH
101-102-103. ELEMENTARY FRENCH. Introduction to the basic language skills of understanding, speaking, reading, and writing of French, with stress on understanding and speaking. Minimum of three hours laboratory per week. Four credits; autumn, winter, spring.

151, 152, 153. CONVERSATIONAL FRENCH. Introduction and practice in the spoken language for travelers and others who are about to make personal contact with nationals of the language. Will meet the practical needs of tourists, missionaries, and professional people in everyday conversation. Will not apply on a major or minor. Two credits; autumn, winter, spring.

201, 202, 203. INTERMEDIATE FRENCH. Development of the basic language skills leading to conversation and intensive reading and writing of French. Minimum of two hours laboratory per week. Must be taken in sequence. Three credits; autumn, winter, spring.

301, 302, 303. SURVEY OF FRENCH LITERATURE. A survey of French masterworks from La Chanson de Roland to the present. Introduction to literary analysis; lectures, reports, required library reading. The class is conducted in French. Prerequisite: 201, 202, 203. Three credits; autumn, winter, spring.

MODERN LANGUAGES

in French. Must be taken in sequence. Three credits; autumn, winter, spring.

404, 405, 406. FRENCH DIRECTED READING. The work consists of assigned reading and reports. Prerequisite: 304-305-306. One to three credits any quarter; maximum, six credits.

408. ROMANTICISM AND REALISM. Study of the period from 1800 to 1870. Special attention to writers such as Hugo, Vigny, Musset, Balzac and Flaubert. Four credits; winter.

419. THE SEVENTEENTH CENTURY. Study of the major writers of the French Classical period. Particular attention will be paid to the works of Corneille, Racine, La Fontaine and La Bruyere. Four credits; autumn.

427, 428, 429. FRENCH CULTURE AND CIVILIZATION. A historical study of the major aspects of French culture and civilization as they appear in painting, architecture, science, music, philosophy and history. Conducted entirely in French. Must be taken in sequence. Two credits; autumn, winter, spring.

438. MODERN PERIOD OF FRENCH LITERATURE. Study of the period extending from the turn of the century to Albert Camus. Intensive reading and discussion of the most representative works of this period. Four credits; spring.

GERMAN

111-112-113. ELEMENTARY GERMAN. Development of listening comprehension, speaking, reading, and writing skills. Minimum of three hours laboratory per week. Four credits; autumn, winter, spring.

161, 162, 163. CONVERSATIONAL GERMAN. Introduction and practice in the spoken language for travelers and others who are about to make personal contact with nationals of the language. Will meet the practical needs of tourists, missionaries, and professional people in everyday conversation. Will not apply on a major or minor. Two credits; autumn, winter, spring.

211, 212, 213. INTERMEDIATE GERMAN. Continued development of basic language skills leading to conversation, intensive reading, and composition. Minimum of two hours laboratory per week. Must be taken in sequence. Three credits; autumn, winter, spring.

311, 312, 313. SURVEY OF GERMAN LITERATURE. Development of German literature from the eighth century to the present, supplemented by readings from representative masterpieces of the language. Conducted in German. Three credits; autumn, winter, spring.

314, 315. GERMAN CIVILIZATION. The development of the cultural, social and political life in German-speaking lands as reflected in architecture, art, history, literature, music and philosophy. Lectures, films, reports. Conducted in German. Must be taken in sequence. Two credits; autumn, winter.
MODERN LANGUAGES

317, 318, 319. ADVANCED GERMAN. Intensive practice in oral and written German. Reading, analysis, and discussion of selected prose. Laboratory practice required. Conducted in German. Must be taken in sequence. Three credits; autumn, winter, spring.

323. SCIENTIFIC GERMAN. An introduction to the reading of technical German in various scientific fields. Two credits; spring.

403. MODERN GERMAN LITERATURE. A study of German literature since Naturalism, focusing on works by Hauptmann, Th. Mann, Kafka, Brecht and others. Considerable attention will also be devoted to representative post-war writers. Conducted in German. Four credits; spring.

411, 412, 413. GERMAN DIRECTED READING. Individual supervision of readings selected for each student separately. Written and oral reports and quarter examination. Approval of instructor required. Prerequisite: 311, 312, 313. One to three credits any quarter; maximum, six credits.

421. GERMAN CLASSICISM. A study of the classical period in German literature as revealed in the works of Lessing, Goethe, and Schiller. Conducted in German. Four credits; autumn.

422. GERMAN ROMANTICISM. A study of writings, philosophies, and literary theories of German romanticism from Friedrich Schlegel to Heinrich Heine. Conducted in German. Four credits; winter.

SPANISH

99. SPANISH REVIEW. Open to students needing additional review of Spanish to be registered for a parallel with 221, 222, 223. Credits received from this course will not count toward the 192 credits required for graduation. Two credits.

121-122-123. ELEMENTARY SPANISH. Development of the basic skills of understanding, speaking, reading and writing of Spanish through a thorough internalization of the Spanish sounds and conceptual patterns. Minimum of three hours laboratory per week. Four credits; autumn, winter, spring.

171, 172, 173. CONVERSATIONAL SPANISH. Introduction and practice in the spoken language for travelers and others who are about to make personal contact with nationals of the language. Will meet the practical needs of tourists, missionaries, and professional people in everyday conversation. Will not apply on a major or minor. Two credits; autumn, winter, spring.

221, 222, 223. INTERMEDIATE SPANISH. Continued emphasis on the development of understanding, speaking, reading and writing Spanish with stress being placed on reading and writing. This course is designed to prepare students to use Spanish as a means of communication as a cultural and research too. Minimum of two hours laboratory per week. Must be taken in sequence. Three credits; autumn, winter, spring.
MODERN LANGUAGES

324, 325, 326. SURVEY OF SPANISH LITERATURE. A survey of the history of Spanish literature; lectures, reports, outside reading; the main currents of the development of the various genres of Spanish literature with a study of representative works. Three credits; autumn, winter, spring.

331, 332. HISPANIC CULTURE AND CIVILIZATION. An overview of the development of the culture of the Spanish-speaking peoples from their peninsular origins to the American expansions. Analysis and interpretation of the Hispanic mind as revealed in art, folklore, literature, and music. Two credits; autumn, winter.


414, 415, 416. SPANISH DIRECTED READING. The work consists of assigned readings and reports. Prerequisite: 341, 342, 343. One to three credits any quarter; maximum, six credits.

424, 425, 426. CONTEMPORARY SPANISH LITERATURE. An intensive study and analysis of Spanish literature from about 1898 to the latest writers who have achieved critical acclaim. Emphasis placed on development of literary critical ability and evaluation of modern Spanish literature from historical and social points of view. Two credits; autumn, winter, spring.

431, 432, 433. LATIN AMERICAN LITERATURE. An introduction to Latin American literature with special emphasis on the South American and Mexican authors. Three credits; autumn, winter, spring.

GENERAL

400. TOPICS IN MODERN LANGUAGES. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

471. METHODS OF TEACHING MODERN LANGUAGES. The principles and practice of teaching modern languages. Students are introduced to the newer methods in both classroom and language laboratory; voice machine techniques, selection of material and equipment. Observation, demonstration, and class presentation are required of the students as a part of this course. Will not apply on a major or minor in Modern Languages. Three credits; winter or spring.

477, 478, 479. INDEPENDENT STUDY IN MODERN LANGUAGES. Directed, independent study in an approved area of French, German, or Spanish. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to majors and minors. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits.
MUSIC

M. West, Chairman; Sandra Camp, R. Hunter, L. Leno, H. Lickey, W. Murphy, G. Spring.

The department offers instruction for those who wish to choose music as a career and for those who wish to develop a cultural appreciation of music. Two curriculums are offered in music: the Bachelor of Music with majors in Performance or Music Education, and the Bachelor of Arts with majors in Music Theory and Applied Music.

BACHELOR OF MUSIC

The Bachelor of Music degree is a professional degree with a choice of two majors: Performance and Music Education. Precollege musical experience and a natural gift for music are prerequisites. All majors must audition for the music faculty before enrolling in an applied field. Sincerity of purpose, application, and aptitude must be demonstrated during the first year before full status as a major student is granted.

Participation in a musical organization is required for each quarter in residence. Voice majors must be in a choral group, string majors in the orchestra, and brass and woodwind majors in the band. Piano and organ majors may elect up to six credits of Ensemble as partial fulfillment of the organization requirement.

Attendance is required of majors at all senior recitals. Majors must pass the examinations of all departmental listening lists and the piano proficiency examination.

REQUIREMENTS FOR A BACHELOR OF MUSIC DEGREE IN PERFORMANCE WITH MAJORS IN PIANO, ORGAN OR VOICE:

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<th>First Year</th>
<th>Second Year</th>
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<tbody>
<tr>
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</tr>
<tr>
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<td>Basic Musicianship II</td>
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<tr>
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### Third Year

<table>
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<td>Applied Major</td>
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<td>Hist. &amp; Lit. of Music</td>
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### Fourth Year

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<td>Counterpoint</td>
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<td>Electives</td>
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<sup>a</sup> Voice majors who have had two units of French or German on the secondary level must take one year of French or German, whichever language the student has not had. If the student has not had French or German on the secondary level, he must take one year each of French and German. Each student must pass a language diction examination in German, French and Italian which will be administered by the voice faculty. Those failing any or all sections of the examination will be required to register for the appropriate section(s) of Singer's Diction.

<sup>b</sup> Voice majors must take Vocal Techniques. Organ majors must take Keyboard Harmony.

A recital during both the junior and senior years is required. This curriculum does not result in denominational or state teaching certification.

### REQUIREMENTS—BACHELOR OF MUSIC DEGREE:

**Major: Music Education**

#### I ELEMENTARY SCHOOL MUSIC CURRICULUM

<table>
<thead>
<tr>
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<td>Theory I</td>
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<td>Major Performance</td>
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<td>Minor Performance</td>
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<td>Organization</td>
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#### Second Year

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<table>
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<th>Subject</th>
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#### Third Year

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<td>Foundation of Education</td>
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<td>Micro-Teaching Lab.</td>
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#### Fourth Year

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<td>Minor Performance</td>
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<td>Organization</td>
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<td>or Topics&lt;sup&gt;b&lt;/sup&gt;</td>
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<tr>
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<tr>
<td>with the department chairman</td>
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#### Electives

<table>
<thead>
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<tbody>
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<td>48</td>
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</table>
Students whose major performance area is voice will usually elect the following arrangement:

4 credits Guitar
2 credits Recorder
3 credits Piano
3 credits Electives from the above in consultation with the department chairman

Students whose major performance area is keyboard will usually elect the following arrangement:

4 credits Guitar
2 credits Recorder
3 credits Voice
3 credits Electives from the above in consultation with the department chairman

Students whose major performance area is instrumental will usually elect the following arrangement:

4 credits Guitar
3 credits Piano
5 credits Instrumental Techniques
All students in this area must take all the instrumental techniques courses thereby counting the additional 5 credits (total of 10) under the Cognates in the third year.

Students whose major performance area is keyboard must take Keyboard Pedagogy and Literature. Students whose major performance area is instrumental will count their additional 5 credits of Instrumental Techniques toward this requirement.

At least one hour must be taken in the area of elementary vocal techniques.

A joint senior recital (or solo recital) is required of all candidates for this degree. With the counsel of the music faculty, a music major may be allowed to substitute a conducting or research project for the senior recital upon evidence of equivalent musicianship in these areas.

This curriculum prepares the student for teaching music on the elementary school level and results in denominational and Washington Provisional certification.

Students completing the Elementary Music Curriculum may also qualify for secondary certification by electing Adolescent Psychology, the Teaching of Music in the Secondary School, and by completing approximately one-half of the directed teaching on the secondary level.
### MUSIC

#### II SECONDARY SCHOOL MUSIC CURRICULUM

<table>
<thead>
<tr>
<th>First Year</th>
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<td>General Psychology</td>
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<td>Minor Performance</td>
<td>Organization</td>
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#### Third Year

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#### Fourth Year

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<td>3</td>
<td>3</td>
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<tr>
<td>Electives</td>
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</table>

*May be deferred to the fifth year.

1. Usually a student will take a total of 24 credits in one applied field. However, students who reach a high level of proficiency in less than 24 credits may be allowed to elect another applied field to complete the 24-credit requirement with the approval of the music faculty.

2. Voice majors will take piano unless they are able to pass the Piano Proficiency Examination. Organ majors will take piano, and piano majors will take organ. Instrumental majors will take all of the instrumental techniques courses. The additional hours beyond the 6 allowed in minor performance will apply toward the cognates in the third year.

3. Basic Conducting is required of all majors. Voice and instrumental majors elect both Instrumental and Choral Conducting, while keyboard majors may elect either.

4. Voice majors must either pass a diction examination in German, French and Italian, or take the appropriate section(s) of Singer's Diction. They must also take Vocal Techniques. Organ majors must take Keyboard Pedagogy and Literature, and Keyboard Harmony. Piano majors must take Keyboard Pedagogy and Literature.

5. Not required of voice majors.

6. The music faculty may allow 6 credits of advanced study in conducting problems through Selected Topics and Independent Study toward the fulfillment of this requirement.
MUSIC

A joint senior recital (or solo recital) is required of all candidates for this degree. With the counsel of the music faculty, a music major may be allowed to substitute a conducting or research project for the senior recital upon evidence of equivalent musicianship in these areas.

This curriculum prepares the student for teaching on the secondary level and results in denominational and Washington Provisional certification. Upon completion of the Fifth Year (see Education Department, p. 72) the student is eligible for the Washington State Standard Certificate.

Students completing the Secondary School Music Curriculum may also qualify for elementary certification by electing Child Psychology, the Teaching of Music in the Elementary School, and by completing approximately one-half of the directed teaching on the elementary level.

BACHELOR OF ARTS

The Bachelor of Arts degree offers a choice of two majors: Music Theory and Applied Music. All majors must audition for the music faculty before enrolling in an applied field. Sincerity of purpose, application, and aptitude must be demonstrated during the first year before full status as a major student is granted. This curriculum is not intended to prepare the student for a career in music, but in some circumstances may precede graduate study in this field.

Participation in a musical organization is required for two years but without credit. Majors in Applied Music will enroll for the following organizations: choral group for voice majors, orchestra for string majors, band for brass and woodwind majors. Piano and organ majors may elect one year of Ensemble as partial fulfillment of the organization requirement.

Attendance at all general recitals and three concerts is required for each quarter in residence. Attendance is also required of majors at all senior recitals. Majors must pass the examinations of all departmental Listening Lists and the Piano Proficiency Examination.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

Major: Music Theory

<table>
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<tr>
<th>Course</th>
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<td>Counterpoint</td>
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<td>Orchestration</td>
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<td>Form and Analysis</td>
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<td>Composition</td>
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<td>Keyboard Harmony</td>
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<td>Applied Music</td>
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Total: 66

Required Cognate:

- Appreciation of Art
  - Art 221, 222, 223
- History of Art
  - Art 321, 322, 323 (total 6)
- Arts and Ideas
  - ND 207, 208, 209

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MUSIC

Major: Applied Music

Basic Musicianship I and II 6
Theory I and II 18
History and Literature of Music 12
Form and Analysis 6

Applied Music (12 hours must be in one field; the remainder to be chosen in consultation with the department chairman.) 21

Electives 3
Piano and Instrumental majors will take Ensemble with the approval of the department.
Organ majors will take Keyboard Harmony. Voice majors will take Vocal Techniques.

Required Cognates:

Appreciation of Art Art 221, 222, 223
or
History of Art Art 321, 322, 323 6
or
Arts and Ideas ND 207, 208, 209
Singer's Diction 211-212-213 (for voice majors who are unable to pass a diction examination in Italian, German and French)

The Music Theory major will present a senior project for which approval must be obtained from the music faculty. The Applied Music majors will present a joint (or solo) senior recital.

MINOR REQUIREMENTS IN MUSIC:

Minor: General

Theory I 9
Basic Musicianship I 1
(first quarter)
Applied Music 6
(in one field, with an examination by the music faculty at the end of the first and second years of private lessons)

Electives—at least 3 credits must be upper-division 8
(no more than 3 hours of musical organizations may apply toward this requirement)

30

Minor: Teaching

Theory I 9
Basic Musicianship I 3
Introduction to Music 6
Applied Music 6
(in one field, with an examination by the music faculty at the end of the first and second years of private lessons)
Philosophy of Music 2
Methods (472 or 473) 2
Basic Conducting 2

THEORY AND COMPOSITION

102. FUNDAMENTALS OF MUSIC. A basic course intended to lay a foundation in the following: notation, rhythm, scales, key signatures, chords, terms, form and sight-singing. This course will not apply toward a major or minor in music. Two credits.

104, 105-106. THEORY I. A course intended to teach the essential crafts of melody construction and harmonization in four parts, within the framework of eighteenth and nineteenth century tonal practice. Prerequisite: 102 or its equivalent. To be taken concurrently: 121, 122-123. Three credits each quarter.

121, 122-123. BASIC MUSICIANSHP I. Designed to provide intensive training in the fundamental skills of musicianship, with emphasis on the rhythmic, melodic, and harmonic concepts presented in Theory I, with which it is to be taken concurrently. One credit each quarter.

204-205-206. THEORY II. A continuation of Theory I with emphasis on the melodic and harmonic developments of the twentieth century. Prerequisites: 104, 105-106 and 121, 122-123. To be taken concurrently: 221-222-223. Three credits each quarter.

221-222-223. BASIC MUSICIANSHP II. A continuation of Basic Musicianship I, normally to be taken concurrently with Theory II. Prerequisite: 121, 122-123. One credit each quarter.

304, 305. FORM AND ANALYSIS. A detailed study of musical structure. Must be taken in sequence. Three credits each quarter.

333. KEYBOARD HARMONY. A course designed to acquaint keyboard majors with the various practical facets of musicianship such as harmonization of figured and unfigured basses and melodies, transposition, open-score reading, modulation, and elementary improvisation. Prerequisite: 204-205-206 and/or the permission of the instructor. Three credits.

406. COUNTERPOINT. A continuation of Course 305 with concentration on the more intricate forms of contrapuntal writing such as motet, canon, and fugue. Prerequisite: 304 and 305. Three credits.

409. ORCHESTRATION. Practical consideration of the techniques, capabilities, and effective uses of orchestral instruments in various combinations. Scoring for small and large combinations of instruments is included. Prerequisite: 304 and 305. Three credits.

411, 412, 413. COMPOSITION I. A study of the art of composing in the smaller forms. Special emphasis is given to twentieth century techniques. Prerequisite: 204-205-206 and/or the permission of the instructor. One or two credits each quarter.

415. COMPOSITION II. Advanced composition in the larger forms. Prerequisite: 411, 412, 413 and/or permission of instructor. One to three credits any quarter; maximum, three credits.
HISTORY AND LITERATURE

201, 202, 203. INTRODUCTION TO MUSIC. An introduction to the appreciation and enjoyment of music through a study of its basic literature with extensive listening. The course seeks to develop an awareness of the emotional, aesthetic and intellectual appeals of music. Students beginning with winter or spring quarter must obtain approval of the instructor. Credit is not allowed toward a major. Two credits each quarter.

291. HISTORY AND LITERATURE OF MUSIC I. A survey of music history from Gregorian Chant to the present with special attention to melodic and harmonic styles. Open to music majors; others accepted with permission from the instructor. Two credits.

292, 293. HISTORY AND LITERATURE OF MUSIC II. A study of music history from Gregorian Chant to the present with emphasis on performance practice and instrumentation. Open to music majors; others accepted with permission from the instructor. Two credits each quarter.

341. HISTORY AND LITERATURE OF MUSIC III. A survey of music history from Gregorian Chant to the present with special attention to music in its cultural context. Open to music majors; others accepted with permission from the instructor. Two credits.

342, 343. HISTORY AND LITERATURE OF MUSIC IV. A study of music history from Gregorian Chant to the present with emphasis on the development of musical forms. Open to music majors; others accepted with permission from the instructor. Two credits each quarter.

MUSIC EDUCATION

211, 212, 213. SINGER’S DICTION. A study of correct pronunciation of Italian, German and French, enabling singers to perform the extensive literature available in these languages. Required of all voice majors who are unable to pass a diction examination in Italian, German and French. One credit each quarter.

277, 278, 279. BRASS TECHNIQUES. Class instruction in the playing and teaching of brass instruments. One credit each quarter.

281, 282, 283. WOODWIND TECHNIQUES. Class instruction in the playing and teaching of woodwind instruments. One credit each quarter.

284, 285, 286. STRING TECHNIQUES. Class instruction in the playing and teaching of stringed instruments. One credit each quarter.

287. PERCUSSION TECHNIQUES. Class instruction in the playing and teaching of percussion instruments. One credit.

308. KEYBOARD PEDAGOGY AND LITERATURE. A course conducted as an introduction to the teaching of piano and organ, including both the private and the class approaches. Combined with the problems of technique, sight reading, memorizing and interpretation will be a brief survey of literature as it applies to teaching situations. Three credits.

312. ELEMENTARY SCHOOL MUSIC LITERATURE. A study of the literature for classroom presentation and children’s voices in grades one to eight. Two credits.
MUSIC

382. VOCAL TECHNIQUES. A study of the factors involved in correct voice production and artistic performance of vocal literature. Three credits.

471. PHILOSOPHY OF MUSIC AND MUSIC EDUCATION. The role of music in the life of the individual, society, the school and the church in the context of Seventh-day Adventist philosophy. Two credits.

472. THE TEACHING OF MUSIC IN THE ELEMENTARY SCHOOL. Objectives, procedures and materials of music education for kindergarten level through grade six. Emphasis on classroom instruction for all students. Also open to nonmusic majors who have completed 471 and who have had musical experience satisfactory to the instructor. Two credits.

473. THE TEACHING OF MUSIC IN THE SECONDARY SCHOOL. Objectives, procedures and materials of music education for grades seven through twelve. Emphasis on classroom instruction for all students. Two credits.

GENERAL

208-209. MINISTRY OF MUSIC. A study of the purpose and use of music in religious services. Attention is given to the aesthetics of the church service and hymnology. Two credits each quarter.

387. BASIC CONDUCTING. A course specifically designed to lay the foundation for the development of the skill and the art of conducting musical ensembles of all kinds. Two credits.

388. INSTRUMENTAL CONDUCTING. Instruction and experience with conducting live performances of representative works of band and orchestral literature. Prerequisite: 387. Two credits.

389. CHORAL CONDUCTING. Instruction and experience with conducting live performances of representative works of choral literature. Prerequisite: 387. Two credits.

400. TOPICS IN MUSIC. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

477, 478, 479. INDEPENDENT STUDY IN MUSIC. Directed study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to majors and minors. Instructor's approval required. One to three credits any quarter; maximum, three credits.

481, 482, 483. SELECTED TOPICS IN MUSIC. Directed independent study on selected advanced topics. All study is done under the supervision of the instructor and elected only after consultation with the chairman of the department. One to three credits any quarter; maximum, three credits.

VOCAL AND INSTRUMENTAL ENSEMBLES

224, 225, 226. CONCERT CHOIR. Organized to provide a large ensemble for the performance of a major choral work each quarter. Open to all students and community singers. One credit each quarter.
231, 232, 233. **WIND ENSEMBLE.** A select band chosen from the members of the Concert Band. Selected band literature as well as woodwind and brass choir literature is performed. One credit each quarter.

241, 242, 243. **SCHOLA CANTORUM.** A select ensemble for those with unusual vocal talent and musicianship. A challenging choice of specialized types of choral literature, both sacred and secular, is studied and performed. Regular appearances on and off campus are customary. Membership is by invitation and/or audition. One credit each quarter.

244, 245, 246. **CHORALE.** This eight-part choral organization performs regularly as the church choir, in addition to presenting concerts on and off campus. Standards of repertoire and performance are equal to those of the Schola Cantorum, but have a different musical objective. Great masterpieces of choral literature are performed each quarter. Membership is by audition. One credit each quarter.

247, 248, 249. **CONCERT BAND.** A select organization which serves the College by performing numerous concerts each year both on and off campus. The repertoire encompasses music of a wide range of styles and periods and includes both original band works as well as appropriate transcriptions. Members are selected on the basis of talent, musicianship, technical development and the need for a balanced instrumentation. Auditions are held during registration. One credit each quarter.

251, 252, 253. **STRING ORCHESTRA.** An organization which rehearses and performs, both on and off campus, a cross-section of standard literature from the Baroque Era to the present. Membership is by audition. One credit each quarter.

254, 255, 256. **WALLA WALLA SYMPHONY.** A community symphonic orchestra which presents four subscription concerts per season. Membership is by audition. One credit each quarter.

257, 258, 259. **ENSEMBLE.** Any vocal or instrumental duo, trio, quartet or larger group may study music peculiar to their ensemble under the direction of one of the music department staff. Piano and organ majors may elect up to six credits of ensemble in lieu of belonging to one of the larger college organizations. One credit each quarter.

**APPLIED MUSIC**

One to four credits of applied music may be earned each quarter. One credit of applied music presupposes 50 hours of practice per quarter; two credits, 100 hours. One hundred forty hours of practice are required per quarter for 3 credits; and 180 hours for 4 credits. (Music majors are required to take a weekly 1-hour lesson unless advised otherwise by the music faculty.)

Music majors are required to take lessons on their chosen instrument each quarter in residence regardless of the amount of credit accumulated.

Not more than 9 credits in applied music (including 3 credits of Ensemble) may be earned toward graduation without an equal number of credits in music classwork.
Transfer students majoring in music must take a minimum of 6 credits in applied music at Walla Walla College.


127, 128, 129. **APPLIED MUSIC.** Intermediate.

227, 228, 229. **APPLIED MUSIC.** Upper intermediate.

327, 328, 329. **APPLIED MUSIC.** Lower advanced.

427, 428, 429. **APPLIED MUSIC.** Advanced.

**PIANO PROFICIENCY REQUIREMENTS:**

In addition to the skills required in Basic Musicianship I and II (121, 122-123 and 221-222-223), all non-keyboard majors will be required to attain the following minimum skills in piano proficiency.

1. Sightread second-grade piano literature, simple accompaniments, and hymns.

2. Demonstrate the ability to prepare third-grade literature within a specified time period.

All students who are not able to pass this examination by the beginning of their sophomore year will be expected to register for piano each quarter until they have met this requirement.
NON-DEPARTMENTAL

AGRICULTURE

J. Dassenko, W. Koenig.

This minor is designed to provide the student with a practical knowledge of a science relating to the basic needs of mankind.

The student should prepare to have at least 30 credits of the following courses:

MINOR REQUIREMENTS IN AGRICULTURE:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit Culture</td>
<td>2</td>
</tr>
<tr>
<td>Vegetable Production</td>
<td>3</td>
</tr>
<tr>
<td>Horticulture</td>
<td>3</td>
</tr>
<tr>
<td>Soil Management &amp; Fertility</td>
<td>3</td>
</tr>
<tr>
<td>Animal Husbandry</td>
<td>3</td>
</tr>
<tr>
<td>Farm Management</td>
<td>3</td>
</tr>
<tr>
<td>Electives (to be taken in consulta-</td>
<td>13</td>
</tr>
<tr>
<td>tion with agriculture instructor)</td>
<td></td>
</tr>
<tr>
<td>Floriculture &amp; Landscaping</td>
<td>3</td>
</tr>
<tr>
<td>Crop Production</td>
<td>3</td>
</tr>
<tr>
<td>Genetics</td>
<td>Bio. 261</td>
</tr>
<tr>
<td>Development Biology</td>
<td>Bio. 266</td>
</tr>
<tr>
<td>Survey of Plant Kingdom</td>
<td>Bio. 360</td>
</tr>
<tr>
<td>Cell Physiology</td>
<td>Bio. 392</td>
</tr>
<tr>
<td>Animal Physiology</td>
<td>Bio. 393</td>
</tr>
<tr>
<td>Plant Physiology</td>
<td>Bio. 401</td>
</tr>
<tr>
<td>General Entomology</td>
<td>Bio. 405</td>
</tr>
<tr>
<td>Plant Anatomy</td>
<td>Bio. 412</td>
</tr>
<tr>
<td>Systematic Botany</td>
<td>Bio. 426</td>
</tr>
<tr>
<td>General Ecology</td>
<td>Bio. 446</td>
</tr>
<tr>
<td>Parasitology</td>
<td>Bio. 447</td>
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</table>

Required Cognates:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>General Biology</td>
<td>Bio. 101, 102, 103</td>
</tr>
<tr>
<td>Introductory Chemistry</td>
<td>Chem. 101-102-103</td>
</tr>
</tbody>
</table>

262. FRUIT CULTURE. Varieties of fruit, deciduous, citrus, and others. Propagation, home orchards, application of plant food, pest control. Two credits.

263. VEGETABLE PRODUCTION. Includes production of vegetable varieties, soil preparation, harvesting, seed production, and the economics of vegetable production. One three-hour laboratory per week. Three credits.

266. HORTICULTURE. This course treats plant growth and development, propagation, fertilizers, transplanting and horticultural crops. One three-hour laboratory per week. Three credits.
267. FLORICULTURE AND LANDSCAPING. Production of cut flowers, production of potted plants, care of plants in the home, laying out of lawns, shrubbery arrangements, tree planting, fertilizers, cultivation. One three-hour laboratory per week. Three credits.

361. SOIL MANAGEMENT. Types of soil, terrain study, plant food, and how to feed plants, irrigation, testing soil, and conservation of plant nutrients in the soil. Prerequisite: Chemistry 101-102-103. Three credits.

362. FARM MANAGEMENT. Labor efficiency, credit, marketing, farm account records, causes of variation in farm income, measuring profits in farming, rates of crop and animal production are included in this course. Special project is required. Three credits.

363. ANIMAL HUSBANDRY. Breeds of livestock, nutrition and feeding, sanitation, judging, management and economics of beef and dairy farming, genetics. Two credits.

364. CROP PRODUCTION. Grain production, forage production, pasture management, fertilizers, weed control, marketing. Field trips and farm visitations are included. Prerequisite: Biology 101, 102, 103. Three credits.

AVIATION

211. AVIATION GROUND SCHOOL. A study of pre-flight facts, meteorology, the flight computer, navigation and Federal Aviation Regulations. The course is designed to enable the student to pass the FAA private pilot written examination. Three credits.

250. AVIATION FLIGHT TRAINING. A course of coordinated flight and ground instruction designed to prepare the student to meet the requirements for the Federal Aviation Agency private pilot certificate. Training is now available on an approved-school basis. Prerequisite: 211, 212 or equivalent. Three credits.

GENERAL

90. DEVELOPMENTAL READING. This course is designed to help college students develop speed and comprehension in reading. The latest reading techniques are taught and some of the best equipment is available for classroom use. It is a highly recommended course, especially for students whose reading habits are poor. Proficiency in reading means improved study skills. Two credits.

207, 208, 209. ARTS AND IDEAS. A course designed to survey and integrate the arts of architecture, sculpture, painting, literature and music, and to show their relation to the general trends of Western culture as an aesthetic outgrowth of the intellectual interests and economic conditions of the various periods of history. Two credits each quarter.

223. MISSIONS ORIENTATION. An interdisciplinary course designed to acquaint the student missionary with cultural differences through conceptual orientation and exposure to the practical aspects of foreign service. Emphasis is also placed on the philosophy and purpose of missions. Two credits.
TRANSGITIONAL CURRICULUM

The transitional curriculum is designed for freshman students who have been accepted by the college with an inadequate background for attempting a full academic program. It consists of courses in English (99 - English Composition), mathematics (99 - Basic Mathematics), and Developmental Reading, in addition to courses within the regular college curriculum.

Students are registered for courses within this curriculum on the basis of test scores from their entrance examinations and/or high school grades. Credits received from the courses in this curriculum are non-transferable and will be in addition to the 192 credits required for graduation.

A transitional curriculum coordinator closely advises all students in this program and schedules regular academic counseling sessions with these students. This counseling procedure continues throughout the freshman year although most transitional students are able to carry a full college load by the beginning of the winter quarter.
NURSING, SCHOOL OF

Wilma Leazer, Dean; Wynelle Huff, Assistant Dean; Bonnie Anderson, Wanda Anderson, Ann Bisgard, Betty Booth, Florence Carrigan, Janice Chance, Judy Farnsworth, Sue Fessler, Helen Furber, Bernadine Irwin, Ingrid Johnsen, Edna Joanson, Annette Loftus, Bonnie Meyer, Carolyn Olson, H. Osterud, Sharon Rawson, Joyce Riter, Rose Shaw, Dena Sherrard, Lois Smith, Clara Thompson.

PHILOSOPHY AND OBJECTIVES

Walla Walla College School of Nursing, as part of a Seventh-day Adventist Church-sponsored educational system, builds its philosophy on the basic concept that the character of God is love and that the entire relationship of man to God and man to man should be one of self-sacrificing love. The faculty of this school believes that man was created perfect in the image of God. However, this image has been marred by disobedience to His laws of life and health, but because of God's love for man, a Way, in the example and sacrifice of Jesus Christ, has been provided to restore man to his original state of perfection.

"To restore in man the image of his Maker, to bring him back to the perfection in which he was created, to promote the development of body, mind, and soul, that the divine purpose in his creation might be realized—this was to be the work of redemption. This is the object of education, the great object of life. Love, the basis of creation and of redemption, is the basis of true education." Mrs. E. G. White, Education, pp. 15, 16.

Man possesses the capacity of intellectual creativity and self-direction. He is a unified whole with intrinsic worth and a value system worthy of respect. His education should include an interacting development of physical vigor, intellectual alertness, social relationships, and spiritual perceptivity. Adaptation, change, and growth are accomplished through interaction of intrinsic and extrinsic factors.

Health is more than the absence of disease; it includes abundant living and can be attained only as man lives in accordance with the laws of health. The laws of health are based on the interaction of spiritual, mental, emotional, social, physical, biological, and cultural factors which represent the main areas of human need.

The Christian professional nurse, in response to the love of God, manifests unselfish love to meet the needs of man. This love is reflected in every aspect of nursing care.

The nurse is an integral part of a health team whose purpose is to maintain, promote, and restore the optimum level of health—to the individual, the family, and the community. The nurse utilizes knowledge and skills from the humanities, sciences, professionally related courses, and nursing to coordinate, direct, and/or administer the care of patients. Complexities of a rapidly changing society demand professional nurses who are self-directive, adaptable, and who can habitually study and think independently. They are able to take discriminative action as agents of change.
A graduate of this program will be expected to:

Implement the nursing process of assessment, planning, intervention, and evaluation. This involves professional insights into the physical, mental, emotional, social, and spiritual needs of persons of all ages and in all environments.

Demonstrate the use of leadership skills in the coordination of nursing care. This operates in the context of independent action and in cooperation with other members of the health team.

Utilize significant communication in interpersonal relationships.

Communicate significantly in interpersonal relationships, and as a practicing professional.

Teach health concepts and health care to individuals, families, and associated personnel.

Demonstrate professional growth.

COOPERATING INSTITUTIONS

Extended campus facilities are located in Portland, Oregon. Teachers' offices, classrooms, and a library are housed in a facility at the Portland Adventist Hospital.

In order to achieve the educational objectives of the program, observation and laboratory practice is selected according to planned experiences. The school of nursing has agreements with many health agencies and institutions which provide off-campus facilities for instruction of students. In the Walla Walla area these include the Veteran's Administration Hospital, Walla Walla General Hospital, Smith Nursing Home, and the Eastern Oregon Hospital and Training Center located in Pendleton, Oregon. Agencies used by agreement in the Portland area include the Portland Adventist Hospital, Woodland Park Hospital, St. Vincent Hospital, Shriner's Hospital for Crippled Children, Crippled Children's Division, University of Oregon, Albina Child Care Center, Clackamas County Health Department, Clark-Skamania District Health Department, Multnomah County Health Department.

ACCREDITATION AND LICENSURE

The school of nursing holds agency membership in the Department of Baccalaureate and Higher Degree Programs of the National League for Nursing and is accredited by the Board of Review of that body. It is approved by the Washington State Board of Professional Nursing and is registered with the Board of Regents of the Department of Education of the General Conference of Seventh-day Adventists.

Upon successful completion of the four-year baccalaureate program, graduates are eligible for admission to the examination for licensure as registered nurses.
NURSING

PROGRAM PLANNING

The dean of the school of nursing maintains offices in College Place, Washington, and in Portland, Oregon. Students who need special information or assistance with program planning may correspond with the dean at the following address:

6014 SE Yamhill Street
Portland, OR 97215

ADMISSION

The nursing program is open to the following:
- Freshman students by a diploma of graduation from an accredited high school or academy.
- Transfer students from other accredited colleges or universities.
- Registered nurse students.

Applicants in all categories listed above must send their application for admission to:

Director, Admissions and Records
Walla Walla College
College Place, WA 99324

The general high school prerequisites for admission to Walla Walla College are listed on page 30; the special mathematics prerequisites for nursing are listed there also.

Registered Nurse Students

Graduates from approved diploma and associate degree programs may be admitted to the nursing program. The same high school prerequisites and general liberal arts courses or equivalent courses are required of registered nurse applicants that are required of generic students.

Registered nurses may establish credit by transfer of courses from other accredited colleges or universities, by validating examinations, or by taking courses as offered to basic students.

Validating examinations in nursing are given by the faculty of the school of nursing. If the student feels competent, he may establish credit by examination in the following nursing courses: 267; 271; 354-355; 357-358; 363. If a satisfactory grade is earned on the examination, full credit for the course is allowed. Unsatisfactory grades of D or F are recorded and the student is required to take these classes with the generic students.

Credit for nursing courses carrying numbers above 400 may not be established by validating examinations.

TRANSPORTATION

Students are responsible for their own transportation to most of the agencies and institutions used for educational experience. Transportation costs will vary from quarter to quarter. A valid driver's license and use of an automobile are mandatory during the quarter the student is in Public Health Nursing.
NURSING

CURRICULUM

The nursing program contains approximately equal portions of general education and professional courses and may be completed in 12 quarters. Five quarters are spent at the extended campus facility in Portland, Oregon.

Attendance at one summer session is required either after the freshman or sophomore year. If two summer sessions are utilized, the program may be accelerated. Students who wish to have certain quarters free for work, study, travel or relaxation, or who may wish to work on requirements for a minor may plan an extended type of program.

Students whose cumulative grade-point average falls below 2.00 (or C) on courses completed or who have received a grade lower than C in the Fundamentals of Nursing courses will not be permitted to proceed with further coursework within the nursing major. Preference is given to students whose grade-point average is 2.25 or above.

Nursing majors must meet the requirements for a Bachelor of Science degree as listed in the section “Degree Requirements.”

If it becomes necessary for a student to register for liberal arts classes at a local college or university in the Portland area, the student is required to pay the tuition to that college or university.

In addition to the regular degree requirements of the College, the following courses are required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamentals of Nursing</td>
<td>227-228</td>
</tr>
<tr>
<td>Adult Nursing I, II, III</td>
<td>267, 354-355</td>
</tr>
<tr>
<td>Parent-Child Nursing I, II, III</td>
<td>271, 357-358</td>
</tr>
<tr>
<td>Introduction to Public Health and Epidemiology</td>
<td>322</td>
</tr>
<tr>
<td>Psychiatric Nursing</td>
<td>363</td>
</tr>
<tr>
<td>Public Health Nursing</td>
<td>402</td>
</tr>
<tr>
<td>Physiological Principles Applied to Nursing</td>
<td>409</td>
</tr>
<tr>
<td>Selected Problems in Nursing</td>
<td>411</td>
</tr>
<tr>
<td>Leadership in Nursing</td>
<td>424</td>
</tr>
<tr>
<td>†Biological Sciences</td>
<td>202, 203; 222</td>
</tr>
<tr>
<td>†Chemistry</td>
<td>101-102-103</td>
</tr>
<tr>
<td>Home Economics</td>
<td>220</td>
</tr>
<tr>
<td>Sociology</td>
<td>204, 205</td>
</tr>
<tr>
<td>*General Electives</td>
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<td></td>
<td>To bring total hours to 192</td>
</tr>
</tbody>
</table>

*Six credits must be chosen from upper-division psychology and/or sociology courses.

†Meets basic science requirement.
# A TYPICAL FOUR-YEAR NURSING PROGRAM

Bachelor of Science Degree

## FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>Freshman Comp.</td>
<td>Freshman Comp.</td>
<td>Freshman Comp.</td>
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<tr>
<td>Introd. Chemistry</td>
<td>Introd. Chemistry</td>
<td>Introd. Chemistry</td>
</tr>
<tr>
<td>Religion</td>
<td>Religion</td>
<td>Religion</td>
</tr>
<tr>
<td>*Fine Arts, Literature, or Speech</td>
<td>Fine Arts, Literature, or Speech</td>
<td>Fine Arts, Literature, or Speech</td>
</tr>
<tr>
<td>Anatomy and Phys.</td>
<td>Anatomy and Phys.</td>
<td>**History</td>
</tr>
<tr>
<td>Physical Education</td>
<td>General Psychology</td>
<td>General Psychology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physical Education</td>
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<td></td>
<td>16</td>
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## SECOND YEAR

<table>
<thead>
<tr>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiology</td>
<td>Fund. of Nursing</td>
<td>Fund. of Nursing</td>
</tr>
<tr>
<td>General Sociology</td>
<td>General Sociology</td>
<td>Electives</td>
</tr>
<tr>
<td><strong>History</strong></td>
<td>*<em>History</em></td>
<td>Sociology or Psych. (UD)</td>
</tr>
<tr>
<td>*Fine Arts, Literature, or Speech</td>
<td>Fine Arts, Literature, or Speech</td>
<td>Fine Arts, Literature, or Speech</td>
</tr>
<tr>
<td>Nutrition</td>
<td>Religion</td>
<td>Religion</td>
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<tr>
<td></td>
<td></td>
<td>Physical Education</td>
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<tr>
<td></td>
<td>16</td>
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**Summer**

<table>
<thead>
<tr>
<th>Adult Nursing I</th>
<th>Parent-Child Nursing II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
</tr>
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<td></td>
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## THIRD YEAR

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<td>Adult Nursing II</td>
<td>Adult Nursing III</td>
<td>Psychiatric Nursing</td>
</tr>
<tr>
<td>Parent-Child Nursing II</td>
<td>Parent-Child Nursing III</td>
<td>Sociology or Psych. (UD)</td>
</tr>
<tr>
<td>Religion</td>
<td>Introd. to Pub. Health</td>
<td>Phil. of Christian Education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electives</td>
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## FOURTH YEAR

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<tr>
<td>Leadership in Nurs.</td>
<td>Public Health Nurs.</td>
<td>May be required of some students due to scheduling pattern.</td>
</tr>
<tr>
<td>Selected Problems in Nursing</td>
<td>Religion (UD)</td>
<td></td>
</tr>
<tr>
<td>Physiological Principles</td>
<td></td>
<td>11</td>
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<tr>
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</table>

**First Program:**

This program may vary from quarter to quarter as necessitated by group scheduling.

*Two basic courses chosen from p. 43.

***Credits of U.S. History or 9 credits of History of Civilization.
COURSES

227-228. FUNDAMENTALS OF NURSING. A study of the basic principles of professional nursing, including a fundamental understanding and practice of interpersonal relationship techniques and simple basic nursing skills with an emphasis on the underlying physical principles. Consideration of common religious beliefs will be given as an aid to the nurse's understanding of the patient's spiritual needs. Community facilities are utilized as clinical practice areas. Prerequisites: The freshman nursing curriculum completed. Six credits, five credits.

267. ADULT NURSING I. A study of the interacting psychosocial, spiritual, biological and cultural factors which influence the health of the adult. The role of the professional nurse as a member of the health team is examined. Opportunity is provided for guided practice in planning, giving and evaluating nursing care of the hospitalized adult, and this forms the basic study of the professional nurse's role in the care of the adult patient in the general hospital. This course runs concurrently with Parent-Child Nursing I, and areas of common application are explored. Prerequisite: 227-228. Nine credits.

271. PARENT-CHILD NURSING I. A beginning study of normal psychosocial, biophysical development from conception to late adolescence. Current philosophies of child development and care based on recent research are considered. Opportunities are given for observation and care of the average child and his family in various settings. This course runs concurrently with Adult Nursing I, and appropriate areas are correlated in theory and practice. Prerequisite: 227-228. Seven credits.

322. INTRODUCTION TO PUBLIC HEALTH AND EPIDEMIOLOGY. A study of the historical background and general organization and structure of public health. Includes study of selected communicable diseases to assist the student in understanding the cause, prevention, and control of disease. Includes an introduction to the use of statistics. Four credits.

354-355. ADULT NURSING II, III. A continuation of Adult Nursing I with deepening emphasis on the nursing care of the ill adult and role of the professional nurse in the care of patients with more complex nursing problems. These courses also run concurrently with Parent-Child Nursing II and III, and areas of common application are explored. Prerequisite: 287. Seven credits each quarter.

357-358. PARENT-CHILD NURSING II, III. A continued study of human psychosocial and biophysical development. The interaction of family members and the resulting behavior in times of physical and emotional stress provide a basis for planning nursing interventions by the health team approach. Learning experiences are organized to include pregnancy, neonates and children in various family constellations. The home, hospital, and selected community agencies are utilized. This course runs concurrently with Adult Nursing II and III, and appropriate areas are correlated in theory and practice. Prerequisite: 271. Five credits.

363. PSYCHIATRIC NURSING. Psychiatric Nursing deals with the study of human behavior and its relationship to the prevention, treatment,
NURSING

and rehabilitation of the emotionally ill in the community and psychiatric setting. Emphasis is placed on development of understanding and skill in observation of behavior, communication and therapeutic use of self in interpersonal relationships. Clinical nursing experience and student-teacher conferences provide the student with guided opportunity to develop skill in meaningful relationships and to participate in the psychiatric health team. Prerequisite: 227, 228. Eight credits.

400. TOPICS IN NURSING. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

402. PUBLIC HEALTH NURSING. Application of knowledge of health principles, methods and nursing skills in the care of families and communities. Emphasis is on how communities care for their health problems and the resources they provide for meeting them. Opportunities in application, including school nursing, are offered by official agencies. This course includes supervised experience in school nursing. Prerequisites: 322, 355, 358, 363. Eleven credits.

409. PHYSIOLOGICAL PRINCIPLES APPLIED TO NURSING. Analysis of selected complex nursing situations in terms of physical and physiological bases for nursing action. Prerequisites: 355, 358, 363. Three credits.

411. SELECTED PROBLEMS IN NURSING. Designed for the development of the student's personal and professional potential. Individualized planning allows each student to select clinical experiences to meet his particular interests in addition to practice in a variety of emergency situations. The student is responsible for setting his own expectations in class discussions, clinical practice, and research. Prerequisites: 355, 358, 363. Six credits.

424. LEADERSHIP IN NURSING. An exploration of the historical sociology of the hospital, tracing the development of the team concept as well as other emerging patterns of nursing care organization. Principles of administration, management, and teaching are considered as they relate to the role of the professional nurse. Study is given to present-day trends in nursing, professional organizations, patterns of nursing education, nursing legislation, and opportunities in the field of nursing. Laboratory experience is provided in planning, organizing and implementing nursing care for groups of patients utilizing team nursing concepts and methods, followed by observer/participant experience with administrative nursing personnel. Prerequisites: 355, 358, 363. Eight credits.

477, 478, 479. INDEPENDENT STUDY IN NURSING. Directed, independent study in an approved area in nursing science or practicum. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits.
OFFICE ADMINISTRATION

Gertrude Gibson, Chairman; Virginia Mabley, E. Quiring.

The degree programs aim to train for an executive secretarial career and for the teaching profession. Administrative preparation on the collegiate level is integrated with a broad cultural education. The department also seeks to equip students with knowledge and skills necessary for stenographers and general office workers.

MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:

**Major: Office Administration**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secretarial Procedures</td>
<td>208</td>
</tr>
<tr>
<td>Advanced Typewriting</td>
<td>222, 223</td>
</tr>
<tr>
<td>Business Machines</td>
<td>262, 263</td>
</tr>
<tr>
<td>Advanced Shorthand and Transcription</td>
<td>287, 288, 289</td>
</tr>
<tr>
<td>Business Communications</td>
<td>351, 352, 353</td>
</tr>
<tr>
<td>Advanced Secretarial Procedures</td>
<td>409</td>
</tr>
<tr>
<td>The Professional Secretary</td>
<td>418, 419</td>
</tr>
<tr>
<td>Independent Study</td>
<td>477, 478, or 479</td>
</tr>
<tr>
<td>Office Administration Seminar</td>
<td>491</td>
</tr>
<tr>
<td>Electives, upper-division</td>
<td></td>
</tr>
</tbody>
</table>

**Required Cognates:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Accounting</td>
<td>111, 112</td>
</tr>
<tr>
<td>Principles of Economics</td>
<td>221, 222</td>
</tr>
</tbody>
</table>

Students preparing for medical secretarial work should complete the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Office Procedures</td>
<td>447</td>
</tr>
<tr>
<td>Medical Terminology</td>
<td>448, 449</td>
</tr>
<tr>
<td>*Anatomy &amp; Physiology</td>
<td>202, 203</td>
</tr>
<tr>
<td>*Microbiology</td>
<td>222</td>
</tr>
</tbody>
</table>

*This sequence will meet the basic science requirements for graduation.

**Major: Business Education**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Secretarial Procedures</td>
<td>207, 208</td>
</tr>
<tr>
<td>Advanced Typewriting</td>
<td>221, 222, 223</td>
</tr>
<tr>
<td>*Advanced Shorthand and Transcription</td>
<td>287, 288, 289</td>
</tr>
<tr>
<td>Business Communications</td>
<td>351, 352, 353</td>
</tr>
<tr>
<td>Advanced Secretarial Procedures</td>
<td>409</td>
</tr>
<tr>
<td>Methods of Teaching Typewriting</td>
<td>471</td>
</tr>
<tr>
<td>Methods of Teaching Shorthand</td>
<td>472</td>
</tr>
<tr>
<td>Methods of Teaching Bookkeeping</td>
<td>475</td>
</tr>
</tbody>
</table>

*See next page.

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OFFICE ADMINISTRATION

Electives, upper-division 15 or 18
Chosen from:
  Office Administration (15)
  Business and/or Economics (15)
  Office Admin., Business
  Admin. and/or Economics (18)

51-54

Required Cognates:
  Principles of Accounting Bus. 111, 112, 113 9
  Introduction to
    Information Science Bus. 153 4
  Business Law Bus. 341, 342, 343 6
  Principles of Economics Bus. 221, 222, 223 9

The student must meet teacher certification requirements (see department of education).

No minor required.

*Alternate courses in this area accepted with permission of department chairman.

MINOR REQUIREMENTS IN OFFICE ADMINISTRATION:

Advanced Typewriting 221, 222, 223 6
Business Machines 262, 263 4
*Advanced Shorthand and
  Transcription 287, 288, 289 9
Advanced Secretarial Procedures 409 3
Electives 7

29

*This course or a proficiency in Voicescription.

ASSOCIATE OF ARTS DEGREE WITH A CONCENTRATION IN SECRETARIAL SCIENCE

The Associate of Arts degree with majors in secretarial, secretarial accounting, and medical secretary fields is offered, requiring the completion of 96 credit hours including certain specified courses. The program is designed to be completed in two years.

The program aims to prepare the student for the responsibilities of a secretarial career as compared with the more limited training of the stenographer, which depends upon the basic skills of typewriting and shorthand. While these skills are emphasized, the advanced students in this two-year program are given the opportunity for specialization in the business and professional areas of the secretarial field through the three courses of study described below.

If, after successful completion of this two-year program, the student wishes to continue for the Bachelor of Science degree with a major in office administration or business education, he may do so without loss of credit.

REQUIREMENTS—ASSOCIATE OF ARTS DEGREE:

Concentration: Secretarial
  Mathematics of Business 171 2
  Secretarial Procedures 207, 208 6
  Advanced Typewriting 221, 222, 223 6
Traditions and Practices of Business 235, 236 4
IBM Key Punch 240 1
Business Machines 262, 263 4
Advanced Shorthand and Transcription 287, 288, 289 9
Business Communications 351, 352, 353 6
Applied Office Administration 380 1
Electives from the Department 6
Electives (as approved by department chairman) 12
General Requirements 33
(as listed below) —

**Required Cognates:**

- Principles of Accounting Bus. 111 3
- Introduction to Information Science Bus. 153 4

**Concentration: Secretarial Accounting**

Those wishing a secretarial accounting major will substitute 12 hours of accounting for Advanced Shorthand and Transcription in the secretarial program.

**Concentration: Medical Secretarial**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics of Business</td>
<td>171</td>
</tr>
<tr>
<td>Advanced Typewriting</td>
<td>221, 222, 223</td>
</tr>
<tr>
<td>Traditions and Practices of Business</td>
<td>235, 236</td>
</tr>
<tr>
<td>IBM Key Punch</td>
<td>240</td>
</tr>
<tr>
<td>Business Machines</td>
<td>262, 263</td>
</tr>
<tr>
<td>Advanced Shorthand and Transcription</td>
<td>287, 288, 289</td>
</tr>
<tr>
<td>Business Communications</td>
<td>351, 352, 353</td>
</tr>
<tr>
<td>Applied Office Administration (Clinical)</td>
<td>380</td>
</tr>
<tr>
<td>Medical Office Procedures</td>
<td>447</td>
</tr>
<tr>
<td>Medical Terminology</td>
<td>448, 449</td>
</tr>
<tr>
<td>Electives, from the Department</td>
<td>5</td>
</tr>
<tr>
<td>General Requirements</td>
<td>33</td>
</tr>
<tr>
<td>(as listed below)</td>
<td></td>
</tr>
</tbody>
</table>

**Required Cognates:**

- Anatomy, Physiology Bio. 202, 203 10
- Principles of Accounting Bus. 111 3
- Introduction to Information Science Bus. 153 4

*Students planning to continue at another institution for Medical Records Librarianship must also complete Biology 222.

**General Requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman Composition</td>
<td>Eng. 101-102-103</td>
</tr>
<tr>
<td>Religion</td>
<td>8</td>
</tr>
<tr>
<td>Physical Education (Service Courses)</td>
<td>2</td>
</tr>
</tbody>
</table>
OFFICE ADMINISTRATION

Personal Finance  Bus. 131  2
Electives (from published bachelor's degree
general requirements)  12

The following courses do not apply toward a major or
minor for the Bachelor of Science degree or as elec-
tives for the Associate of Arts degree:
Beginning Typewriting  121, 122, 123
Shorthand Theory  141, 142, 143

REQUIREMENTS—TWO-YEAR CERTIFICATE:

This program constitutes the first two years of the four-year degree
program. It is designed for the student who is interested in obtaining
basic secretarial skills and early job employment.

If, after successful completion of this two-year program, the student
wishes to continue for the Bachelor of Science degree with a major in
office administration or business education, he may do so without loss of
credit.

Shorthand Theory  141, 142, 143  9
Mathematics of Business  171  2
Secretarial Procedures  207, 208  6
Advanced Typewriting  221, 222, 223  6
Traditions and Practices
of Business  235, 236  4
Business Machines  262, 263  4
Advanced Shorthand and
Transcription  287, 288, 289  9
Applied Office Administration  380  1

Required Cognates:
Freshman Composition  Eng. 101-102-103  9
Religion  8
Physical Education (Service Courses)  2
Electives  36
In counsel with department chairman  96

REQUIREMENTS—CLERICAL CERTIFICATE:

A two-year certificate with same requirements as above except the
student may substitute in counsel with the department chairman an elec-
tive in place of the shorthand requirement.

OFFICE ADMINISTRATION

121, 122, 123. BEGINNING TYPEWRITING. Introduction to touch
typewriting with emphasis on basic theory, speed, accuracy. The first
quarter (121) of this course will be offered each quarter and may be taken
by anyone for personal-use typewriting. Does not apply toward a major
or minor for the Bachelor of Science degree or as an elective for the
Associate of Arts degree. Two credits each quarter.

141, 142, 143. SHORTHAND THEORY. The principles of Gregg short-
hand are taught with emphasis on correct writing and transcribing of
shorthand notes. Does not apply toward a major or minor for the Bachelor of Science degree or as an elective for the Associate of Arts degree. Three credits each quarter.

171. MATHEMATICS OF BUSINESS. Includes the study of payroll mathematics, interest, negotiable instruments, markup, discounts, depreciation, sinking funds, insurance, and installment buying. Two credits.

207, 208. SECRETARIAL PROCEDURES. A preparation for the activities and procedures common to most stenographic jobs, including business English, records management, receptionist duties, and office ethics. Three credits each quarter.

221, 222, 223. ADVANCED TYPEWRITING. A continuation of the study of touch typewriting with emphasis on increase of speed, accuracy, and skill in the production of business papers. The course work is arranged to provide for individual differences due to the background of the student in typewriting. Two credits each quarter.

235, 236. TRADITIONS AND PRACTICES OF BUSINESS. The development of the basic traditions and concepts of law in business practices and a study of the impact of consumer decisions upon the American economy with emphasis on the application of economic principles to the solution of the problems of individuals and society in general. Two credits each quarter.

240. IBM KEY PUNCH. Gives basic knowledge and skill in punch card operation. Supervised experience on the IBM 029 Printing Card Punch is provided. Permission from the department chairman required. One credit.

262, 263. BUSINESS MACHINES. Instruction and practice in the use of adding and calculating machines, duplicating machines, and voice-scription machines. Two credits each quarter.

287, 288, 289. ADVANCED SHORTHAND AND TRANSCRIPTION. A review of the principles of Gregg shorthand and emphasis on speed in taking and transcribing business dictation. The criteria for this course is mailability of all business correspondence. Three credits each quarter.

351, 352, 353. BUSINESS COMMUNICATIONS. A study of the principles basic to effective communication with application to specific problems related to business. Two credits each quarter.

380. APPLIED OFFICE ADMINISTRATION. For qualified students to gain practical experience in the following areas: on-the-job training—advanced business machines, receptionist and PBX, clinical office practice. One to three credits any quarter; maximum, three credits.

400. TOPICS IN OFFICE ADMINISTRATION. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

409. ADVANCED SECRETARIAL PROCEDURES. A study of the duties and problems of the secretary in business, including the study of personality, office relations, and data processing. Three credits.

417, 418, 419. THE PROFESSIONAL SECRETARY. Considers the present and future problems facing the professional secretary including human relations, supervisory responsibilities, and office management. The
material covered gives the student the necessary background for taking the CPS examination. Three credits each quarter.

427. ADVANCED TRANSCRIPTION. A course for senior students to develop to a high degree of accuracy and speed the transcription of shorthand notes. Special attention is given to practice in transcribing outlines, reports, theses, and bibliographies. Three credits.

428. SHORTHAND SPEED BUILDING. A course designed to develop speed in shorthand writing, with rapid and accurate transcription. Three credits.

447. MEDICAL OFFICE PROCEDURES. Designed to acquaint students with the specialized duties of a medical office with emphasis given to the preparation of medical office records. Three credits.

448, 449. MEDICAL TERMINOLOGY. A study of the development of the basic medical vocabulary. There will be practice in the transcription of medical records from voicecription machines. Prerequisite: Biology 202, 203 or equivalent substitution with consent of department chairman. Three credits each quarter.

463 Bus. HUMAN RELATIONS IN MANAGEMENT. See department of business. Four credits.

463. THE LEGAL SECRETARY. A course designed to acquaint students with legal shorthand and terminology, preparation of legal documents, court procedures, and management of the legal office. Two credits.

471. METHODS OF TEACHING TYPEWRITING. A survey of the objectives, methods, and techniques of teaching typewriting in the secondary school. Observation, demonstration, and class presentation are required. Two credits.

472. METHODS OF TEACHING SHORTHAND. A survey of the objectives, methods, and techniques of teaching shorthand in the secondary school. Observation, demonstration, and class presentation are required. Two credits.

474. THE DENOMINATIONAL SECRETARY. A course which deals with denominational vocabulary, reporting techniques, and the work of the denominational secretary. Special emphasis is placed on an understanding of the Seventh-day Adventist denominational organization and activities. Two credits.

475. METHODS OF TEACHING BOOKKEEPING. Consideration of materials and methods in the teaching of bookkeeping in the secondary school. Observation, demonstration, and class presentation are required. Two credits.

477, 478, 479. INDEPENDENT STUDY IN OFFICE ADMINISTRATION. Directed, independent study in an approved area of current business or office problems. The student will be required to read widely, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to upper-division students. One to three credits any quarter; maximum, three credits.

491. OFFICE ADMINISTRATION SEMINAR. For office administration majors for discussion, research, special problems, analysis of new trends in the field, and study of the major areas in office administration. One to three credits any quarter; maximum, three credits.
# PHYSICS

C. Barnett, Chairman; C. Bell, D. Hall.

The department offers a Bachelor of Arts degree and a Bachelor of Science degree with a major in physics, and jointly with the department of biology a Bachelor of Science degree with a major in biophysics. The physics major who is preparing for secondary teaching will normally choose the Bachelor of Arts degree, including the certification requirements. The Bachelor of Science degree is designed to prepare the student for graduate study and a career in applied or basic research and college teaching. The interdisciplinary major in biophysics should best fill the needs of the student who plans a career in medicine, or who plans on research and advanced study into the physics of living systems.

## MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

### Major: Physics

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Experimental Physics</td>
<td>114, 115, 116</td>
</tr>
<tr>
<td>Introductory Physics*</td>
<td>201, 202, 203</td>
</tr>
<tr>
<td></td>
<td>204, 205, 206</td>
</tr>
<tr>
<td>Electricity and Magnetism</td>
<td>301, 302</td>
</tr>
<tr>
<td>Physical Optics</td>
<td>303, 316</td>
</tr>
<tr>
<td>or Electric Circuit Analysis I</td>
<td>Engr. 228</td>
</tr>
<tr>
<td>Electromagnetic Fields I</td>
<td>Engr. 229</td>
</tr>
<tr>
<td>Engineering Electronics I</td>
<td>Engr. 329</td>
</tr>
<tr>
<td>Experimental Physics</td>
<td>414, 415, 416</td>
</tr>
<tr>
<td>Optics Laboratory</td>
<td>316</td>
</tr>
<tr>
<td>Introduction to Modern Physics</td>
<td>311, 314</td>
</tr>
<tr>
<td>Physical Electronics</td>
<td>312, 315</td>
</tr>
<tr>
<td>Thermodynamics</td>
<td>313</td>
</tr>
<tr>
<td>Physics Seminar I</td>
<td>317, 318, 319</td>
</tr>
<tr>
<td>Physics Seminar II</td>
<td>417, 418, 419</td>
</tr>
</tbody>
</table>

*Students having 12 hours of credit in General Physics may meet the Introductory Physics requirement by passing an examination set by the department of physics and electing an additional three hours of physics.

### Required Cognates:

- General Chemistry                  | Chem. 161-162-163 |
- Computer Science II                 | Engr. 220        |

***Other courses involving manipulative skills may be substituted in consultation with department chairman.

## MAJOR REQUIREMENTS—BACHELOR OF SCIENCE DEGREE:

### Major: Physics

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Experimental Physics</td>
<td>114, 115, 116</td>
</tr>
<tr>
<td>Introductory Physics</td>
<td>201, 202, 203</td>
</tr>
<tr>
<td></td>
<td>204, 205, 206</td>
</tr>
</tbody>
</table>

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**PHYSICS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity and Magnetism</td>
<td>8</td>
</tr>
<tr>
<td>Physical Optics</td>
<td>5</td>
</tr>
<tr>
<td>Introduction to Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>Physical Electronics</td>
<td>4</td>
</tr>
<tr>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>Physics Seminar I</td>
<td>3</td>
</tr>
<tr>
<td>Atomic and Nuclear Physics</td>
<td>9</td>
</tr>
<tr>
<td>Experimental Physics</td>
<td>3</td>
</tr>
<tr>
<td>Physics Seminar II</td>
<td>3</td>
</tr>
<tr>
<td>Theoretical Mechanics</td>
<td>6</td>
</tr>
</tbody>
</table>

**Required Cognates:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chemistry</td>
<td>Chem. 161-162-163</td>
</tr>
<tr>
<td>Computer Science II</td>
<td>Engr. 220</td>
</tr>
<tr>
<td>Electric Circuit Analysis I</td>
<td>Engr. 228</td>
</tr>
<tr>
<td>Engineering Electronics I</td>
<td>Engr. 329</td>
</tr>
<tr>
<td>***Survey of Ind. Oper.</td>
<td>Ind.Ed. 241-242</td>
</tr>
<tr>
<td>Ordinary Diff. Equations</td>
<td>Math. 312</td>
</tr>
<tr>
<td>Advanced Calculus</td>
<td>Math. 351, 352, 353</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Intro. Theory of Comp. Var.</td>
<td>Math. 423</td>
</tr>
</tbody>
</table>

Candidates for this degree must meet all basic graduation requirements with the exception of language.

***Other courses involving manipulative skills may be substituted in consultation with department chairman.

**Major: Biophysics**

**Biology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Biology</td>
<td>101, 102, 103</td>
</tr>
<tr>
<td>Genetics</td>
<td>261</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Developmental Biology</td>
<td>266</td>
</tr>
<tr>
<td>Cell Physiology</td>
<td>392</td>
</tr>
<tr>
<td>Animal Physiology</td>
<td>393</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Plant Physiology</td>
<td>401</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Comparative Physiology</td>
<td>468</td>
</tr>
<tr>
<td>General Ecology</td>
<td>446</td>
</tr>
<tr>
<td>Research Methods I, II, III</td>
<td>351, 352, 453</td>
</tr>
</tbody>
</table>

**Physics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Experimental Physics</td>
<td>3</td>
</tr>
<tr>
<td>Introductory Physics</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Modern Physics</td>
<td>15</td>
</tr>
<tr>
<td>Physical Electronics</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Biophysics</td>
<td>Bio. 470</td>
</tr>
</tbody>
</table>

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PHYSICS

Thermodynamics 313  3
Optics Lab 316  1
Physics Seminar I 317, 318, 319  3
Physics Seminar II 417, 418, 419  3

Required Cognates:

- General Chemistry Chem. 161-162-163  12
  or
- Physical Chemistry Chem. 351, 352, 353
- Computer Science II Engr. 220  2
- Electric Circuit Analysis I Engr. 228  4
- Engineering Electronics I Engr. 329  3
- Probability & Statistics Math. 311  4

Candidates for this degree must meet all basic graduation requirements with the exception of language. The minor requirements for this degree are met in the cognates listed above. One summer term at the Marine Biological Station is highly recommended.

MINOR REQUIREMENTS IN PHYSICS:
A minimum of 27 credits chosen in counsel with the department chairman.

COURSES

114, 115, 116. INTRODUCTION TO EXPERIMENTAL PHYSICS. The principles and practice of physical measurements, experiment design and evaluation. One credit; autumn, winter, spring.

201, 202, 203. INTRODUCTORY PHYSICS. An introductory course in mechanics, relativity, electromagnetism and wave motion, designed to provide the science and engineering major with an intuitive and a mathematical understanding of fundamental physical concepts. Must be taken in sequence. Prerequisite: Mathematics 181. Corequisite: 204, 205, 206; Mathematics 281, 282, 283. Four credits; autumn, winter, spring.

204, 205, 206. INTRODUCTORY PHYSICS LABORATORY. Experimental exploration and study of the fundamental concepts of physics. One credit; autumn, winter, spring.

211, 212, 213. GENERAL PHYSICS. An introductory course in mechanics, heat, sound, light, electricity, atomic and nuclear physics, elementary particles, quantum mechanics, and special relativity, designed primarily for the non-physics major to acquaint him with the ideas and methods of physics for possible application to problems in other areas of human endeavor. Prerequisite: Mathematics 111, 112, 113 or 121, 122. Physics 211 prerequisite for 212 or 213. Corequisite: 214, 215, 216. Three credits; autumn, winter, spring.

214, 215, 216. GENERAL PHYSICS LABORATORY. Laboratory work integrated with 211, 212, 213. One credit; autumn, winter, spring.
"241, 242, 243. PHYSICAL ASTRONOMY. Introduction to modern astronomy with emphasis on the place of astronomy in man's cultural and scientific thought and experience: planets, moons, comets, meteors, the solar system as a unit; the sun, stars, galaxies, and the sidereal universe. Laboratory or night observation once a week. This course will meet the basic science requirement for the baccalaureate degree. Offered alternate years. Four credits; autumn, winter, spring.

Physics 201, 202, 203 or equivalent and Mathematics 181, 281, 282, 283 prerequisite for all courses numbered 300 or above except 350, 352, 353, 471.

Students registered for courses numbered 300 or above, except 350, 352, 353, 471, are required to be concurrently registered for Physics Seminar.

301, 302. ELECTRICITY AND MAGNETISM. Electric and magnetic field theory, polarization, magnetization, solutions to the equations of Laplace and Poisson, Maxwell's equations, applications to plane waves, and dipole radiation. Corequisite: 317, 318. Four credits; autumn, winter.


311. INTRODUCTION TO MODERN PHYSICS. Basic principles of quantum theory, atomic and nuclear structure. Corequisite: 314, 317. Three credits; autumn.


313. THERMODYNAMICS. An introduction to the physical theories of equilibrium thermostatics and irreversible thermodynamics based on elementary statistical mechanics. Prerequisite: 311. Corequisite: 318. Three credits; winter.

314. MODERN PHYSICS LABORATORY. Experimental study of the characteristics of alpha, beta and gamma radiation, interaction of radiation with matter, neutron activation. One credit; autumn.

315. PHYSICAL ELECTRONICS LABORATORY. Experiments in crystal and semi-conductor physics, properties of ionized gases, measurement of fundamental physical constants. One credit; spring.

316. OPTICS LABORATORY. Experimental study of geometrical and physical optics. One credit; winter.

317, 318, 319. PHYSICS SEMINAR I. Contemporary and classical topics in physics presented for discussion and study with emphasis placed on underlying principles and the interrelation of physical concepts. Major topics will not be repeated more often than bi-yearly. Regular use will be made of the current literature of physics. One credit; autumn, winter, spring.

*Not offered 1972-73.
PHYSICS

352, 353. RADI OISO TOPE RESEARCH TECHNIQUES. Laboratory work accompanied by lectures appropriate to the techniques studied in the laboratory: radiation detection, instrumentation, radiological safety, interaction of radiation with matter, ionization chambers, proportional counters, Geiger counters, scintillation counters, spectrometers, monitoring and survey instruments, activation analysis, selected biological and chemical studies. Prerequisite: 211, 212, 213, or Chemistry 161-162-163. Offered alternate years. Two credits; winter, spring.

350. PHYSICS AND MODERN LIFE. A study of the relations of physics to modern life in such areas as technology, economics, sociology, fine arts, philosophy and religion. One area is selected for emphasis. No prerequisites. Three credits; spring.

400. TOPICS IN PHYSICS. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

411, 412, 413. ATOMIC AND NUCLEAR PHYSICS. Experimental and theoretical foundations of modern atomic and nuclear physics: special relativity, elementary quantum mechanics, atomic structure and spectra, nuclear structure, nuclear reactions, fundamental particles. Prerequisite: 301, 302, 303. Corequisite: 414, 415, 416; 417, 418, 419. Three credits; autumn, winter, spring.

414, 415, 416. EXPERIMENTAL PHYSICS. Classical and modern experiments in atomic and nuclear physics. One credit; autumn, winter, spring.

417, 418, 419. PHYSICS SEMINAR II. Contemporary and classical topics in physics presented for discussion and study, with emphasis placed on underlying principles and the interrelation of physical concepts. Major topics will not be repeated more often than bi-yearly. Regular use will be made of the current literature of physics. One credit; autumn, winter, spring.

421, 422, 423. THEORETICAL MECHANICS. Statics and dynamics of particles, fluids, and rigid bodies, harmonic, orbital, and wave motion, Lagrangian and Hamiltonian mechanics. Corequisite: 417, 418, 419. Three credits; autumn, winter, spring.

471. METHODS OF TEACHING PHYSICAL SCIENCE. Materials, techniques and methods of teaching the physical sciences on the secondary level. Observation, demonstration, and class presentation are required. Special attention is given to newer methods of teaching science to the secondary student. Three credits.

477, 478, 479. INDEPENDENT STUDY IN PHYSICS. Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods and present a paper showing competence in and extent of his study. Open only to majors and minors. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits.

†Not offered 1973-74.
THEOLOGY, SCHOOL OF


The principal purposes of the school of theology are to provide undergraduate education for students seeking to enter the ministry and to offer courses in religion as desired by students in various other curricula of the College.

Candidates for the ministry are selected on the basis of scholarship, spiritual qualities, cultural refinement, social sympathies and skills. Ministerial students are admitted to candidacy for a Bachelor of Arts degree with a major in theology upon the approval of the theology faculty at the beginning of the junior year. Those approved will then work to meet seminary entrance requirements by completing a theology major. Two additional years of graduate study at the Theological Seminary of Andrews University are recommended as prerequisite for the ministerial internship.

Those who expect a recommendation to the seminary and/or those who plan to be pastors, evangelists, Bible workers, or Bible teachers should take a theology major. The religion major is available to those who desire a concentration in religion but are not planning it as a profession.

All majors must successfully complete a senior comprehensive examination. Those planning to attend the seminary should make sure that they obtain the necessary undergraduate subjects required for entrance. Students who plan to teach religion in academies must aim for teacher certification, and they should as early as possible in their college career consult the dean of the school of theology about courses required.

MAJOR REQUIREMENTS—BACHELOR OF ARTS DEGREE:

**Major: Theology**

*Theology I 141, 142, 143 9
Theology II 221, 222, 223 9
Dev. of Christian Church 371, 372 4
Seminars in Theology 411, 412 or 413 4
Electives (Counsel with department chairman.) 32

**Required Cognates:**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greek I</td>
<td>Bib.Lang. 101-102-103 12</td>
</tr>
<tr>
<td>Greek II</td>
<td>Bib.Lang. 221, 222, 223 12</td>
</tr>
<tr>
<td>History of Civ.</td>
<td>Hist. 101, 102, 103 9</td>
</tr>
<tr>
<td>Fund. of Speech</td>
<td>Comm. 101-102 4</td>
</tr>
<tr>
<td>Pulpit Address</td>
<td>Comm. 381, 382 6</td>
</tr>
<tr>
<td>Communication electives</td>
<td>2</td>
</tr>
<tr>
<td>Phil. of Science</td>
<td>Bio. 407 3</td>
</tr>
</tbody>
</table>

**Major: Religion**

Fifty-four credits of electives chosen in counsel with the department chairman.

*Students transferring to a theology major who have already completed Life and Teachings should complete only the first quarter of Theology I.*
THEOLOGY

Major: Biblical Languages
A minimum of 45 credits. The following cognates are required: Religion 444, 445, 446 three credits taken from either History 461 or Theology 371. Theology 461, 462, 463 are strongly urged as electives.

MINOR REQUIREMENTS IN RELIGION:
30 credits, including 9 upper division.

MINOR REQUIREMENTS IN BIBLICAL LANGUAGES:
A minimum of 30 credits, at least 6 of which must be in upper-division language courses. Theology 371, 444, 445, 446 and History 461 are recommended.

BIBLICAL STUDIES

101, 102, 103. BIBLE SURVEY. An introductory course designed to provide the tools necessary for an understanding of the Bible. Portions of both the Old and New Testaments are studied in order that the student may gain insight into the major divisions of the Scripture story. Students having had Bible courses on the secondary or college level should not register for this course. Two credits each quarter.

104, 105, 106. LIFE AND TEACHINGS OF JESUS. A study of the life of Christ, His teachings, His methods, and the principles of His kingdom as they apply to life in the world today. Those having had Theology I should not register for this course without special permission. Two credits each quarter.

141, 142, 143. THEOLOGY I. An introductory course which inductively leads the student into a study of the God-man, the nature of His kingdom, and the teachings of Christ concerning Himself, His law, and the way of salvation. The concepts of Matthew and John are studied so that the theology of Christ is seen against the background of His earthly life. Open only to theology majors. Must be taken in sequence. Those having had Life and Teachings should not register for this course without special permission. Three credits each quarter.

201, 202, 203. FUNDAMENTALS OF CHRISTIAN BELIEF. An introductory course in the evidences and principles of Christianity, consisting of a study of the basic concepts of religious faith and practice, and a survey of the fundamental doctrines as taught in the Bible. Two credits each quarter.

221, 222, 223. THEOLOGY II. This course consists of a thorough study of the basic teachings of the Bible. Students will be required to organize their concepts of Bible doctrines and teach them to others, in groups and individually, in class and community. Lectures, discussion and seminar methods will be employed. Open only to theology majors. Those having had Fundamentals of Christian Belief should not register for this course without special permission. Three credits each quarter.

257, 258, 259. THE PAULINE LETTERS. An exegetical examination of each of Paul's letters within its historical context to determine the particular message of each, the literary devices employed to convey this message and its relevance for today. Two credits each quarter.
THEOLOGY

321. DANIEL. An advanced course on the historical setting and significance of the book. The prophetic features of the book are studied in the light of both secular and church history to provide the student with a clearer insight into contemporary religious conditions. Three credits.

322. THE REVELATION. An advanced course on the historical setting and significance of the book. The prophetic features of the book are studied in the light of both secular and church history to provide the student with a clearer insight into contemporary religious conditions. Three credits.

351. PENTATEUCH. An exegetical examination of significant passages in Pentateuch. Attention is given to the historical setting, authorship, time, circumstance of writing, and other literary questions. Three credits.

352. WRITINGS. An exegetical examination of the historical and poetic books of the Bible. Attention is given to authorship, the time and circumstance of writing, and other literary questions. Three credits.

353. OLD TESTAMENT HISTORY. A study of the historical framework in which the religion of Israel developed. Attention is paid to dominant events and trends in God's saving relationship to His covenant people. Three credits.

364, 365, 366. HEBREW PROPHETS. A study of the major and minor prophets from the viewpoint that these things "were written for our admonition upon whom the ends of the world are come." Attention is given to the historical setting of the prophecies, with careful exegetical study of the text, emphasizing the fundamentals of the gospel as contained therein. Course 364 prerequisite to 365 or 366. Three credits each quarter.


**411, 412, 413. SEMINAR IN THEOLOGY. These seminars involve intensive, individual study, written reports and group discussion on assigned Biblical topics and contemporary theological issues. Open only to theology majors. Two credits each quarter.

426. ESCHATOLOGY. A study of the final events of this earth's history as outlined in the great lines of Bible prophecy and the writings of Ellen G. White. Emphasis is placed upon the important issues in the great controversy between good and evil and the final establishment of God's everlasting kingdom upon the earth. Three credits.

464, 465, 466. NEW TESTAMENT EPISTLES. An exegetical study of the epistles of the New Testament, with attention being given in each case to the introductory matters. This course is intended for theology students although it is open to others with a mature background in Bible. The first two quarters of this course are not open to students having taken 257, 258, 259. Three credits each quarter.

467, 468, 469. THE GOSPELS. An exegetical examination of each gospel within its historical context to determine the particular message of each and the literary devices employed to convey this message and its relevance for today. Three credits each quarter.

**Does not meet the basic religion requirements.
**477, 478, 479. INDEPENDENT STUDY IN RELIGION.** Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods, and present a paper showing competence in and extent of his study. Open only to majors and minors. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits.

**CHRISTIAN PHILOSOPHY**

261, 262, 263. **BIBLICAL PHILOSOPHY.** The major Biblical teaching will be studied in relation to each other and to the great controversy between Christ and Satan to assist the student in developing a philosophy of life and a system of theology. **Credit will not** be given for both this course and 201, 202, 203. Two credits each quarter.

330. **CONTEMPORARY CHRISTIAN ETHICS.** A study of Biblical ethics in relation to current ethical views on conduct and behavior. Two credits.

341, 342, 343. **SPIRIT OF PROPHECY AND DENOMINATIONAL HISTORY.** A careful review of the Gift of Prophecy in the remnant church. The bestowal of this gift in the beginning, after the fall of man, and its work during the centuries to the 1844 movement. The rise of the denomination in its connection with the prophetic movement of Revelation 10 and in its development during the last one hundred years is carefully studied. Course 341 prerequisite to 342 or 343. Two credits each quarter.

421. **INTRODUCTION TO PHILOSOPHY.** A course designed to acquaint the beginner with the vocabulary, methods and concerns of philosophy. Study is made of the living issues facing mankind and the efforts of philosophy to provide answers to these major human problems. Two credits.

422. **PHILOSOPHY OF RELIGION.** A constructive study of religious feeling, thought and practice from a philosophical point of view. Attention is especially given to the fundamental reasoning underlying the Christian faith in general and the beliefs of Seventh-day Adventists in particular. Prerequisite: 421. Two credits.

423. **CONTEMPORARY PHILOSOPHY.** A critical examination of the significant philosophical thinking of our time. The theories of naturalism, idealism, realism, pragmatism, logical empiricism, existentialism and other related movements will receive careful scrutiny. This comparative survey of twentieth-century systems is designed to assist the student in relating and communicating to the present civilization. Prerequisite: 421. Two credits.

427, 428. **CHRISTIAN DYNAMICS.** An analytical study and practical application of the dynamics of Christian behavior. An advanced course designed to guide the student in understanding and experiencing the moving physical, mental, spiritual and social forces that produce constructive thought, healthy motivation and positive action in the religious life. One lecture, one discussion, one laboratory period each week. Three credits.

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**Does not meet the basic religion requirements.**

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THEOLOGY

429. STUDIES IN CHRISTIAN DYNAMICS. A survey of research methods combined with individual, independent study carried out under the direction of the instructor. A representative paper will be required in which the student must show competence in study and research on an independent basis. Registration by permission of the instructor. Pre-requisite: 427, 428. Two credits.

ARCHAEOLOGY AND RELIGIOUS HISTORY

371, 372, 373. THE DEVELOPMENT OF THE CHRISTIAN CHURCH. A course on the rise and development of Christianity from the apostolic age to modern times. Two credits each quarter.

402. MODERN DENOMINATIONS. This course deals with the cardinal teachings of a number of the prominent religions of the world. Comparisons are made of the teachings relating to God, salvation, sin, and the future. Three credits.

403. WORLD RELIGIONS. A short study of the greater religions of mankind, such as Animism, Hinduism, Buddhism, Confucianism, Shintoism, Islam, and Christianity. Consideration is given to the historical setting out of which these religions arose, their founders, their basic teachings and rituals, their conceptions of God and man, as well as their influence on cultural development. Three credits.

444. A SCIENTIFIC APPROACH TO BIBLICAL INTERPRETATION. The doctrines of inspiration and revelation are considered in preparation for a survey of the history of the canon and the critical disciplines employed by scholars to arrive at a better understanding of the text. Two credits.

445. BIBLICAL ARCHAEOLOGY. An introduction to the science of archaeology with particular attention to those discoveries which bear on the interpretation of the Biblical text. Two credits.

446. THE HISTORY OF THE ENGLISH BIBLE. A survey of the history of the Bible from the earliest manuscripts through the science of textual criticism to a comparison of the numerous English versions currently available. Two credits.

APPLIED THEOLOGY

383. CHURCH ADMINISTRATION. Study of church organization, election and duties of church officers, church boards, business meetings and finances, with opportunity for observation and participation in these phases of church activity. Careful study is given to principles of Christian worship and the special services of the church. Three credits.

400. TOPICS IN THEOLOGY. The study of advanced topics through class activities. One to three credits per quarter; maximum, six credits.

410. HOSPITAL MINISTERIAL TRAINING. This course is offered as a seminar at the Portland Adventist Hospital. Besides a balanced program of clinical experience, there will be films, discussion, lectures by physicians, chaplains and other resource personnel. Registration by permission only: class limited to five students. Six credits.
442. PERSONAL EVANGELISM. A course designed for students desiring to learn methods of individual religious instruction, the techniques of meeting objections, and the art of securing decisions. The preparation and giving of Bible studies will be featured. Special attention given to junior and youth evangelism. Two credits.

447, 448. PUBLIC EVANGELISM. Advanced study in the art of preaching with particular emphasis upon Bible exposition. Detailed attention will be given to the various phases of evangelistic work including advertising and the planning of public meetings. This course is definitely designed for young men who desire to make the gospel ministry their vocation. Admission to the class will be upon the recommendation of the professor. Prerequisite: Communication 381, 382. Two credits each quarter.

460. FIELD EVANGELISM. Experience in evangelistic techniques is obtained by giving Bible studies and/or holding meetings. One to three credits, any quarter; maximum, three credits.

471. METHODS OF TEACHING BIBLE IN THE SECONDARY SCHOOL. An examination of current teaching practices in the secondary school in the area of religion with emphasis on objectives, content, organization, and materials and resources available. Observations in the schools along with micro-teaching giving opportunity to demonstrate competency is required. Will not apply on a major or minor in theology or religion. Three credits.

472. PASTORAL COUNSELING. The basic principles of counseling studied from the perspective of the pastor. Three credits.

473. THEOLOGY OF PASTORAL CARE. The nature and function of pastoral care from a theological perspective. Practical applications of theological insights will be made to the vocation of the pastor. Three credits.

BIBLICAL LANGUAGES

101-102-103. GREEK I. An introductory study of the elements of New Testament Greek with experience in translation. This course emphasizes the development of the ability to read the original language, and at the same time aims to create an interest in the New Testament. The First Epistle of John is translated as well as selected chapters in the Gospel of John. Five credits each quarter.

221, 222, 223. GREEK II. Continued reading in the Greek New Testament with emphasis upon principles of interpretative translation. The book of Revelation and selections from the Gospels are used in developing a facility in translation. Three credits each quarter.

341, 342, 343. DOCTRINAL EPISTLES OF PAUL. An exegetical study of the great doctrinal epistles of Paul. Selections from the letters to the Thessalonians, Corinthians, Romans, and Galatians are especially studied as examples of the apostle's theological writings. Two credits each quarter.

344, 345, 346. LATER EPISTLES OF PAUL. An exegetical study of examples of Paul's later letters, especially the so-called prison epistles. The epistles of Paul to the Ephesians, Philippians, and Colossians are studied as typical of this period of the apostle's life. Two credits each quarter.
347, 348, 349. PASTORAL AND GENERAL EPISTLES. An exegetical study of the Pastoral Epistles and the General or "Catholic" Epistles. Selections are studied from Paul's epistles to Timothy and Titus, and from the epistles of Peter, James and Jude. Two credits each quarter.

441-442-443. HEBREW I. An introductory course in Biblical Hebrew. Emphasis is placed upon an intensive study of the grammar of this ancient language. The student is taught the ability to read from the Hebrew Bible and to use lexical materials. Three credits each quarter.

451, 452, 453. HEBREW READING. Directed reading in the prophetic sections of the Hebrew Bible. Material from Isaiah and either Jonah or Hosea is selected for translation. Some experience in the translating from the Dead Sea Scrolls is provided in the spring quarter. Two credits each quarter.

461, 462. TEXTUAL CRITICISM OF THE NEW TESTAMENT. A study of materials, methods, and history of New Testament textual criticism, with practical exercise using microfilms and facsimiles of manuscripts. Must be taken in sequence. Two credits each quarter.

463. TRANSLATION PROBLEMS. A study of the methods, resources, and history of the art of Bible translation. A critical evaluation will be made of the important contemporary translations and of some of the more important translation problems. Two credits.

477, 478, 479. INDEPENDENT STUDY IN BIBLICAL LANGUAGES. Directed, independent study in an approved area. The student will be required to read widely on an assigned subject, follow regular research methods and present a paper showing competence in and extent of his study. Open only to majors and minors. Permission from the chairman of the department required. One to three credits any quarter; maximum, three credits.
FINANCIAL INFORMATION

WALLA WALLA College desires that the financial arrangements and transactions be as considerate as possible for both students and parents. Several plans are available which should make it possible, as far as finances are concerned, for almost everyone who desires to attend Walla Walla College to realize this aim.

BOARD ACTIONS

Actions voted by the College Board, Faculty, or Finance Committee at any time shall have equal force or, if necessary, supersede statements published in this bulletin.

TUITION

<table>
<thead>
<tr>
<th>Credits</th>
<th>Fee</th>
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</thead>
<tbody>
<tr>
<td>1-12</td>
<td>$45 (per credit)</td>
</tr>
<tr>
<td>13-16</td>
<td>588 (per quarter)</td>
</tr>
<tr>
<td>above 16</td>
<td>38 (additional per credit)</td>
</tr>
</tbody>
</table>

Residence hall students will be charged a minimum of $540 per quarter tuition except seniors in their final quarter who need less than 12 credits to graduate.

The tuition includes all laboratory fees, music lessons, and rentals (typewriter, piano and organ).

GENERAL FEE: A general fee of $25 per quarter is charged students registered for six or more credits which provides student association membership, dormitory or village club membership, health service, ID card, and a lyceum ticket.

AUDITING. Regular tuition is charged for auditing classes.

CHALLENGE EXAMINATION CREDITS. Regular tuition is charged for credits received by challenge examinations.

TUTORING. Triple tuition is charged for individual tutoring.

PAYMENTS REQUIRED TO REGISTER. An advance payment of $375 plus any balance due from a previous quarter shall be paid at time of registration. Part-time students shall pay the full tuition charge in advance if less than $375.
FAMILY DISCOUNTS

A ten percent discount will be allowed on tuition for each child when three or more single children from one family are in attendance at Walla Walla College during the same quarter.

Discounts will be forfeited if student status is terminated prior to the end of the period for which the discount was given.

BOOKS AND SCHOOL SUPPLIES

Textbooks, stationery, gym suits and equipment and other materials needed for schoolwork may be obtained at the College Store at reasonable prices. THESE ITEMS ARE TO BE PAID FOR IN CASH AT THE TIME OF PURCHASE. Parents should allow the student $50 to $75 extra for such purchases each quarter.

STATEMENTS

Statements will be issued each month giving an account for the previous month. Tuition and room rent for the quarter will be charged in advance at the beginning of each quarter. Actual food service charges are billed at the close of each month. Village students may obtain their statements from the cashier in the accounting office.

It is expected that statements will be paid within ten days from time of mailing. The College operates on a cash basis and is dependent upon prompt payment of accounts.

REMITTANCES

Checks, drafts and money orders should be made payable to Walla Walla College and should be sent to Walla Walla College Accounting Office, College Place, Washington 99324.

SPECIAL FEES

Application Fee (not refundable) $10.00
Aviation (as announced) 1.00
Change of program, per subject
Classes having numerous or extended field trips will be given notice of special fees to cover expenses
Degree, Bachelor's and Associate 7.50
Degree, in absentia, Bachelor's and Associate 17.50
Degree, Master's 25.00
Degree, in absentia, Master's 35.00
ID Card Replacement 3.00
Late registration 15.00
Special examination 5.00
Transcript, first copy free
Additional copies each 1.00
Validating Examination Fee—per quarter credit 2.00
MUSIC FEES

Private Lessons (per quarter for students taking music lessons without credit):
One-half hour lesson - same charge as one quarter-hour of credit.
One hour lesson - same charge as two quarter-hours of credit
Private lessons from a student - 85 percent of one quarter-hour of credit

Rentals:
Practice room (per quarter for students desiring practice only) $12.00
Organ (per quarter for students desiring practice only) 25.00
Band or orchestral instrument (per quarter for students desiring lessons and not possessing their own instrument) 10.00

PHYSICAL EDUCATION FEES

Aquatics 25.00
Archery 5.00
Canoeing 10.00
Fencing 5.00
Golf 10.00
Horsemanship 20.00
Lapidary 10.00
Mountaineering 10.00
Sailing 10.00
SCUBA Diving 10.00
Skating 13.50
Skiiing 25.00

RESIDENCE HALL EXPENSES

Where there is dual occupancy, the room rental charge for each student per quarter is:
Conard Hall $140
Women's High Rise 150
Sittner Hall 140
Men's Whitman Lodge 140 - 165

When rooms are available, single occupancy is permitted at an extra charge of $30 per quarter.
The above charge includes laundry service up to $4 per month.
Dormitory students should not bring their own laundry bags, as special bags will be provided by the College. Name tapes are recommended on clothing sent to the College Laundry.
Telephone service is provided in dormitory rooms at a cost of $10 per student occupant per quarter.

PERSONAL PROPERTY LOSS. The College cannot accept responsibility for any loss of or damage to the personal property of any student.
ROOM RESERVATIONS. Each student resident in one of the College residence halls will be required to make a $50 room deposit which will be credited to the account when the student permanently discontinues dormitory residence, less any room charges turned in by the dean for delayed departure, uncleaned rooms, or room damage. This deposit will secure continuous room reservation on a year-by-year basis as long as the student desires dormitory residence.

A refund will be made until August 1 each year upon receipt of a written cancellation of room reservation, but no refund is made thereafter.

BOARD. The cafeteria plan is followed in the College dining hall. Actual charges for food are billed to the student's statement each month.

AUTOMOBILE PARKING FEE. Residence hall students bringing automobiles with them will be charged a fee of $5 per quarter for parking privileges. Covered parking is available at a slightly additional cost. The College does not carry parking lot insurance which will cover damage to the vehicle, or theft, or loss of any sort while parking in the lot. If such insurance is desired, comprehensive coverage can be secured by the owner at a more reasonable rate than can be provided by the College.

REFUNDS

A student withdrawing from classes during the quarter will receive the following refunds: (General fee not refundable)

Tuition—90% during first week of quarter
75% between first and third weeks
50% between third and sixth weeks
No tuition is refunded after the sixth week.

Room Rent—80% during first two weeks of quarter
50% between third and fifth weeks
30% between sixth and eighth weeks

The beginning of the quarter will be considered to be the first day of class instruction.

When a student withdraws during a quarter, no refund will be made until 30 days after the close of the month in which he withdrew. Students who leave school without completing withdrawal procedures will be charged until proper arrangements are made. (Also see Room Reservations.)

INSURANCE—ACCIDENT AND HOSPITALIZATION

Student accident and hospital insurance is carried by the College under a blanket policy for all students enrolled for six or more quarter credits. The premium of $40.40 is charged on the student's September statement of account and provides coverage for 12 months whether or not the student remains in school for the full period of coverage. Information describing coverage and claim procedures will be supplied each student. Inquiries should be directed to the student health service.
STUDENT HEALTH SERVICE

The clinical facilities and 12 beds of the health service are available for students requiring treatment or minor hospitalization. Prescriptions and other medicines are available at special prices. A reasonable charge is made for hospitalization in excess of three days per quarter. The three days allowed per quarter are not cumulative. In case of serious illness or surgery, the Walla Walla General Hospital provides complete service to students. Financial arrangements must be made directly with the hospital.

RELEASE OF TRANSCRIPTS OR DEGREES

By action of the board of trustees of the College, a degree or transcript of credit may not be released until the student's account is paid in full.

To expedite the release of transcripts, diplomas, and other legal documents, the student should send a money order or certified check to cover the balance of his account when requesting transcripts, et cetera.

INQUIRIES

Inquiries concerning student financial matters should be directed to the student finance office, and those concerning academic or instructional program or admission should be directed to the vice president for academic affairs or the registrar of the College.

FINANCIAL AIDS

STUDENT LABOR. Walla Walla College has year-round campus work opportunities to help students earn a portion of their school expenses. These opportunities, while not unlimited, are many, and ordinarily take care of most students who need part-time employment. Students needing employment should seek their assignment through the Student Finance Office.

Students should not plan to earn all their expenses as there needs to be a balance between work and study. Students of average ability will find 8-12 hours a week an adequate work program. Students planning to work in the industrial departments such as the press, bindery, laundry, dairy and farm should plan to work a 15-20 hour week. The responsibility of taking advantage of campus work opportunities rests with the student.

SCHOLARSHIPS AND ASSISTANTSHIPS

<table>
<thead>
<tr>
<th>Maximum Scholarship:</th>
<th>ENTERING FRESHMAN ACHIEVEMENT AWARD.</th>
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</thead>
<tbody>
<tr>
<td>$200 per year</td>
<td>The College awards a $200 non-renewable scholarship to any entering freshman who has placed scholastically in the upper five percent of his graduating class. To validate this award, evidence of class standing must be submitted to the College registrar.</td>
</tr>
<tr>
<td>Non-renewable</td>
<td></td>
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</tbody>
</table>

| $300-$500 per year   | NATIONAL MERIT SCHOLARSHIPS. The College will award scholarships to entering freshmen of the North Pacific Union Conference of Seventh-day Adventists who have placed in the National Merit Scholarship competition as follows: |
| Non-renewable        | Finalist $500                           |
|                      | Semi-finalist $400                      |
|                      | Honorable Mention $300                  |

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These scholarships are non-transferable and non-renewable.

NURSING STUDENT SCHOLARSHIPS. The United States Department of Health, Education, and Welfare annually makes available a limited number of scholarships.

Applicants must be nursing students who are United States citizens. The college will give first consideration to the financial need of applicants rather than high academic achievement in making these awards. To qualify, a student must have exceptional financial need as evidenced by submission of a Parents' Confidential Statement (PCS). PCS's are available through the student finance office and should be submitted by June 1.

FORUM SCHOLARSHIP. The Walla Walla College chapter of the Adventist Forum makes available several scholarships. Candidates must be of minority ethnic groups. Preference will be given to students from the North Pacific Union Conference. For additional information, contact the Adventist Forum Scholarship Fund Coordinator, c/o Walla Walla College, College Place, WA 99324.

PUBLISHING HOUSE SCHOLARSHIPS. Students may earn a portion of their school expenses by selling denominational literature during the summer. These scholarships apply to room, board, tuition and other direct school expenses. For details regarding this scholarship plan, write to the Publishing Secretary of the North Pacific Union Conference, 10225 East Burnside, Portland, Oregon 97216.

YOUTH SERVICE OPPORTUNITIES. The College, in cooperation with the youth department of the North Pacific Union and the local conferences, makes available $700 scholarships for students participating in the Youth Services Opportunities program during the summer. Service opportunities will be in the areas of youth camp work, vacation Bible schools, door-to-door visitations, etc. For additional information and application forms, write: Youth Department, P.O. Box 10677, Portland, OR 97216.

ELEMENTARY TEACHING SCHOLARSHIPS. The conferences of the North Pacific Union offer a $600 renewable scholarship to elementary education majors who plan to teach church schools of this union. Students are eligible for scholarship consideration beginning with their sophomore year. For further information, contact the educational secretary of the conference in which employment is desired.

GRADUATE ASSISTANTSHIPS. A few assistantships are available for graduate students in biology and education. Candidates applying for these assistantships should write to the respective department chairman.
GRANTS

EDUCATIONAL OPPORTUNITY GRANTS. A limited number of undergraduate grants are available to qualified students. These grants are made available by the United States Department of Health, Education, and Welfare. To qualify, a student must be enrolled as a full-time student and have exceptional financial need as evidenced by submission of a Parents' Confidential Statement (PCS).

PCS's are available through the student finance office and should be submitted by June 1.

W.C.P.T. FINANCIAL GRANTS FOR EDUCATION.
The Washington Congress of Parents and Teachers provides two grants per year for entering freshmen. Applicants must have graduated from a high school located in the state of Washington. The College will give first consideration to the financial need of applicants rather than high academic achievement in making these awards.

Applications are available through the student finance office. The cut-off date for submitting applications to the College is April 1.

WASHINGTON STATE NEED GRANT PROGRAM.
The State of Washington has made available a grant program for residents of the state only. Qualifications are state residency and financial need. Residency of students follows that of the parents. A student must have been domiciled in the state for one full year prior to the commencement of the first day of the quarter for which aid is requested.

Application forms consist of a Parents' Confidential Statement (PCS) and may be obtained from the student finance office.

WASHINGTON STATE TUITION SUPPLEMENT.
The state of Washington awards this supplement without regard to a student's financial need. A student must pass the same residency requirements of the State Need Grant Program listed above. Besides having state residency, students must be undergraduates carrying at least 12 credit hours of classwork. Applications will be available during autumn quarter registration.

LAW ENFORCEMENT EDUCATION PROGRAM. The United States Department of Justice makes available a limited number of educational grants for students who are full-time employees of law enforcement agencies. These grants may amount to as much as $200 per quarter. Financial need is not a criterion in approving this aid.

Applications are available from the student finance office.
B.I.A. GRANTS. Students having at least one-fourth American Indian or Eskimo blood may obtain considerable grant assistance from the Bureau of Indian Affairs. For applications and additional information, write to Bureau of Indian Affairs, 1425 NE Irving Street, Portland, OR 97208.

DEFERRED PAYMENT PLANS

EDUCATIONAL FUNDS, INCORPORATED. For students and parents desiring to pay education expenses in monthly installments, a low-cost, deferred-payment program is available through Education Funds, Inc. E.F.I. contracts run for a maximum of twelve months, and must be renewed each school year. Parents desiring further information concerning this deferred payment plan should contact the student finance office or Education Funds, Inc., 36 South Wabash, Room 1000, Chicago, Illinois 60603.

THE INSURED TUITION PAYMENT PLAN. This program provides for dividing the entire four-year educational expenses into equal monthly payments. An extended repayment plan is available.

It includes insurance on the parent for death or total disability. The insurance is designed so that its value is always adequate to pay the remaining planned educational expense.

The earlier the plan is begun, the smaller will be the monthly payments and the longer the term of insurance coverage.

Additional information may be obtained from the student finance office or Richard C. Knight, Insurance Agency, Inc., Insured Tuition Payment Plan, 6 St. James Avenue, Boston, Massachusetts 02116.

LOANS

An increasing number of students are financing their education through the use of loan funds. Several of these funds are available, making it possible for the great majority of students to continue school without interruption due to lack of finances.

ALASKAN STATE LOAN. Alaskan students may borrow up to $2,500 per year for collegiate expenses through this program. Up to 40 percent of this loan may be forgiven if the student returns to Alaska after graduation.

Applications may be obtained from the Department of Education, Student Loan Office, Pouch F, Juneau, AK 99801.

FEDERALLY INSURED LOAN. Many banks are offering the Federally Insured Loans to college students. These are long-term, low interest loans that need not be repaid until the student completes his course of study. 

Financial need is not a criterion in approving a loan. Consult the loan officer of your bank for additional information.

Applications are available through the student finance office.
NATIONAL DEFENSE STUDENT LOAN. The National Defense Student Loan is made available through the United States Department of Health, Education, and Welfare and Walla Walla College. To qualify, the students must have financial need as evidenced by submission of a Parents' Confidential Statement (PCS). Priority in awarding this aid is given to students with the greatest financial need. Repayments begin after the applicant's student status terminates.

PCS's are available through the student finance office and should be submitted by June 1.

NURSING STUDENT LOAN. Nursing Student Loans are made available through the United States Department of Health, Education, and Welfare and Walla Walla College.

To qualify, a student must have financial need as evidenced by submission of a Parents' Confidential Statement (PCS). Priority in awarding this aid is given to students with the greatest financial need. Repayments begin after the applicant's full-time nursing student status terminates.

PCS's are available through the student finance office and should be submitted by June 1.

OREGON STATE STUDENT LOAN. Under this plan Oregon State residents may borrow from their home town bank if they are accepted for enrollment or are enrolled in good standing and carrying a full-time course of study.

Applications are available in the student finance office, or you may write to Oregon State Scholarship Commission, P. O. Box 3175, Eugene, Oregon 97403.

OTHER LOANS. Walla Walla College has several short-term emergency loan funds available. Repayments begin during the year in which the loans are made. Additional information is available in the Student Finance office.
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