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WICHITA STATE UNIVERSITY
CALENDAR FOR 1965-1966

1965

September 13 and 14, Monday and Tuesday Pre-Freshman Period
Entrance tests for freshmen who have not taken them previously

September 15, 16, 17, 18, Wednesday through Saturday Registration for First Semester
Classes Begin

September 20, Monday

October 30, Saturday Final day for removing incompletes

November 12, Friday Mid-term reports

November 26, Friday Final day for non-penalty grades

November 25, 26, 27, Thursday, Friday, Saturday Thanksgiving recess

November 29, Monday Advising for pre-registration for Second Semester

December 17, Friday Pre-registration ends

December 18, Saturday Christmas recess begins at close of classes

1966

January 3, Monday Classes resume

January 18, Tuesday Classes close

January 19, 20, 21, 22, 24, 25, Wednesday, Thursday, Friday, Saturday, Monday, Tuesday First Semester Final Examinations

February 2, 3, 4, 5, Wednesday, Thursday, Friday, Saturday

February 7, Monday Registration for Second Semester Classes begin

March 19, Saturday Final day for removing incompletes

April 1, Friday Mid-term reports

April 7, Thursday Easter recess begins at close of classes

April 12, Tuesday Classes resume

April 15, Friday Final date for non-penalty grades

April 29 (or May 6), Friday May Festival

May 24, Tuesday Classes close

May 25, 26, 27, 28, 31, June 1, Wednesday, Thursday, Friday, Saturday, Tuesday, Wednesday Second Semester Final Examinations

June 5, Sunday Commencement exercises, 6:00 P.M.

June 10, 11, Friday and Saturday Summer School Registration

June 13, Monday Summer School Classes Begin
ADMIRATIVE OFFICERS OF THE UNIVERSITY — 1964-1965

Emory Lindquist
President
Hugo Wall
Vice President - Academic Affairs
Dean of the Graduate School
Director of Summer Session
Glen Gardner
Vice-President - Operations
Francis Jabara
Dean of the College of Business Administration and Industry
Jackson O. Powell
Dean of the College of Education
Colon Dunn, Acting
Dean of the School of Engineering
Walter Duerksen
Dean of the College of Fine Arts

James K. Sours
Dean of the Fairmount College of Liberal Arts and Sciences
J. Robert Berg
Dean of University College
Josephine Fugate
Dean of Women
Worth A. Fletcher
Registrar
Laura M. Cross
Director of Admissions
Downing O’Harra
Librarian
John Gaddis
Physical Plant Administrator
Roger D. Lowe
Business Manager
Frederick Sudermann
Director of Special Services

BOARD OF REGENTS
Lawrence D. Morgan
Goodland
Chairman
Whitley Austin
Salina
Henry Bubb
Topeka
Arthur H. Cromb
Mission Hills
John F. Eberhardt
Wichita
Ray Evans
Prairie Village
Clement H. Hall
Coffeyville
Dwight D. Klinger
Ashland
Eldon Sloan
Topeka
Max Bickford
Executive Officer

UNIVERSITY FACULTY — 1964-1965
(Date following title refers to time of first appointment)


Aldrich, Benjamin M., Professor of Mechanical Engineering (1956). B.S.M.E., University of Nebraska, 1927; M.S., South Dakota College, 1934; Registered Professional Engineer.


Angulo, J. E., Assistant Professor of Spanish (1961). B.S., Instituto Santiago de Cuba, 1921; A.B., Friends University, 1923; M.A., University of Kansas, 1931.


Berg, J. R., Professor of Geology and Dean of University College (1940). A.B., Augustana College, 1936; M.S., State University of Iowa, 1940; Ph.D., ibid., 1942.


Bernhart, Walter D., Associate Professor of Electrical Engineering (1954). B.S.C.E., Kansas State University, 1950; M.S. Math., University of Wichita, 1959; Ph.D., Oklahoma State University, 1964.


Blake, Leslie M., Associate Professor and Head of Department of Speech (1946). B.S., Kansas State College, 1937; M.S., ibid., 1939.

Blythe, Jack G., Professor and Acting Head of the Department of Geology (1949). B.A., University of Wichita, 1947; M.S., Northwestern University, 1950; Ph.D., University of Oklahoma, 1957.

Boardman, Eunice, Associate Professor of Music Education (1957). B.M.E., Cornell College, 1947; M.M.E., Teachers College, Columbia University, 1951; Ed.D., University of Illinois, 1964. (Leave of Absence.)

Born, John D., Jr., Assistant Professor of History (1965). B.A., University of Texas, 1952; M.A., University of Houston, 1958; Ph.D., University of New Mexico, 1963.

Bosley, Elizabeth Caswell, Assistant Professor of Logopedics (1940). A.B., Friends University, 1933; M.A., University of Kansas, 1935.


Bowers, Barbara R., Acting Assistant Professor of Music Education (1963). A.E., Iowa State
Teachers College, 1947; M.M.E., University of Wichita, 1963.

Brandhorst, Armin L., Assistant Professor of Mechanics and Materials (1964). B.S.M.E., Kansas State University, 1959; M.S.M.E., Oklahoma State University, 1964.


Bratton, Clayton G., Assistant Professor and Acting Head of the Department of Journalism (1956). B.J., University of Missouri, 1950; M.S., University of Kansas, 1956.

Breazeale, John, Professor and Head of Department of Physics (1959). B.S., Millsaps College, 1947; M.S., University of Alabama, 1951; Ph.D., University of Virginia, 1955.

Brennan, Daniel J., Assistant Professor of Geology (1964). B.S., University of Notre Dame, 1951; M.S., South Dakota School of Mines and Technology, 1953; Ph.D., University of Arizona, 1957.


Buess, Charles M., Associate Professor of Chemistry (1961). B.A., Ohio State University, 1942; M.S., Western Reserve University, 1946; Ph.D., University of Southern California, 1949.


Campbell, James H., Assistant Professor of Administration (1964). B.A., Miami University, 1956.


Cavorozzi, Joyce Pennington, Instructor in Speech and Drama (1965). B.S. in Education, Ohio University, 1953; M.A., Ohio State University, 1963.

Ceasar, James, Professor of Violin (1949). B.M., Cleveland Institute of Music, 1940; B.S., Western Reserve University, 1947; M.A., ibid., 1949.

Chrisman, Paul G., Assistant Professor and Student Loan Counselor (1955). B.S., Kansas State Teachers College, Pittsburg, 1936; M.A., ibid., 1941.

Christenson, Donald D., Associate Professor of Administration; Assistant Dean of College of Business Administration and Industry, and Head of Department of Administration (1958). B.S., University of Wichita, 1955; M.S., University of Illinois, 1957; Ph.D., ibid., 1962.

Christian, Robert V., Jr., Professor and Head of Department of Chemistry (1946). B.S., University of Wichita, 1940; Ph.D., Iowa State College, 1946.

Cohen, Benjamin Bernardo, Associate Professor of English (1960). B.A., University of Maryland, 1943; M.A., ibid., 1944; Ph.D., Indiana University, 1950.


Cook, Everett L., Associate Professor of Aeronautical Engineering (1953). B.S.A.E., University of Wichita, 1954; M.S.A.E., ibid., 1958.

Conece, H. B., Assistant Professor of Mathematics (1964). B.S., Iowa State University, 1959.

Corbin, Harry F., University Professor (1946). A.B., University of Wichita, 1940; B.D., University of Chicago, 1943; LL.B., University of Kansas, 1949.


Cotter, Cornelius P., Professor and Head of Department of Political Science (1963). A.B., Stanford University, 1949; M.P.A., Harvard University, 1951; Ph.D., ibid., 1953.

Cowgill, Donald O., Professor and Head of Department of Sociology and Anthropology (1946). A.B., Park College, 1933; M.A., Washington University, 1935; Ph.D., University of Pennsylvania, 1940. (Leave of Absence)


Craig, Andrew J., Associate Professor and Head of the Department of Aeronautical Engineering (1957). B.S.A.E., Texas A & M, 1952; M.S.A.E., University of Wichita, 1960; Ph.D., Stanford, 1963.

Creech, Jack W., Assistant Professor of Speech (1964). B.S., Indiana State University, 1962; M.S., ibid., 1964.

Cress, Allan M., Professor and Head of the Department of German (1953). A.B., University of Illinois, 1942; M.A., ibid., 1948; Ph.D., ibid., 1952.

Crockett, Helen, Assistant Professor and Assistant to Dean of University College in Charge of Continuing Education (1949). B.A., University of Wichita, 1951; M.A., University of Wichita, 1955.

Culter, Bruce, Associate Professor of English (1960). B.A., State University of Iowa, 1951; M.S., Kansas State University, 1957. (Leave of Absence — Second Semester)


Davis, Ronald W., Assistant Professor of Mathematics (1964). B.A., University of Colorado 1958.


Dick, Harry R., Associate Professor of Sociology (1963). B.S., University of Nebraska, 1952; M.A., ibid., 1953; Ph.D., Washington State University, 1957.

Distler, Donald A., Assistant Professor of Biology (1963). B.A., University of Louisville, 1952; M.S., ibid., 1957.


Duerksen, Walter, Professor of Music and Dean of College of Fine Arts (1952). B.P.S.M., University of Wichita, 1951; M.M., Northwestern University, 1938.

Duggan, Bessie L., Assistant Professor of Speech (1964). B.S., Kansas State Teachers College, Emporia, 1954; M.S., ibid., 1957; Specialist, Southern Illinois University, 1961.

Dunn, Colon H., Professor, Acting Dean of School of Engineering and Head of Department of Electrical Engineering (1959). B.S., John Brown University, 1942; M.E.E., Rensselaer Polytechnic Institute, 1953.

Dunning, Wayne W., Assistant Professor of Chemistry (1961). B.S., Iowa State College, 1952; M.S., Iowa State University, 1959; Ph.D., ibid., 1961.


Earnest, Olen J., Assistant Professor of Psychology (1964). B.A., University of Wichita, 1959.

Ellis, Howard E., Professor and Chairman of the School of Music and Head of Department of Music Education (1955). A.B., Albion College, 1942; M.M., University of Michigan, 1947; Ph.D., ibid., 1957.

Erickson, James, Assistant Professor of English (1964). B.A., University of Minnesota, 1955; M.A., ibid., 1957; Ph.D., ibid., 1961.


Fahrbach, Carl G., Assistant Registrar and Assistant Professor of Education (1964). B.S., Kansas State Teachers College, Emporia, 1948; M.S., ibid., 1951; Ed.D., University of Kansas, 1958.

Farnsworth, David N., Associate Professor of Political Science (1956). A.B., University of Wichita, 1953; A.M., University of Illinois, 1955; Ph.D., ibid., 1958.


Flemming, David G., Assistant Professor of Speech and Drama (1953). B.A., Adelphi College, 1951; M.A., Cornell University, 1953.

Fletcher, Worth A., Registrar and Professor of Chemistry (1927). B.A., University of Indiana, 1925; M.A., ibid., 1926; Ph.D., ibid., 1927.


Foster, Robert, Assistant Professor of Economics (1964). B.A., University of Wichita, 1955.

Frazer, Robert W., Professor of History (1946). A.B., University of California at Los Angeles, 1936; M.A., ibid., 1940; Ph.D., ibid., 1941. (Leave of Absence)

Froning, Dorothy Gardner, Professor of Spanish (1947). A.B., Park College, 1936; M.A., University of Alabama, 1947; Ph.D., University of California, 1961.

Fugate, Josephine B., Professor of Mathematics and Dean of Women (1955). A.B., University of Kansas, 1924; M.A., ibid., 1929.

Gane, Elizabeth Mae, Assistant Professor and Assistant to the Dean of Women (1960). B.A., Randolph-Macon Women's College, 1937; M.A., Syracuse University, 1959.

Garmsey, Clarke H., Associate Professor and Chair-

Genova, Anthony C., Jr., Assistant Professor and Head of Department of Philosophy and Religious Education (1962). A.B., University of Chicago, 1957; Ph.B., ibid., 1958; M.A., ibid., 1958.

Gerhard, Paul F., Associate Professor of Journalism (1949). B.A., University of Colorado, 1941; M.A., ibid., 1948.

Gerling, Amy G., Professor and Acting Head of Department of Sociology (1947). A.B., University of Wisconsin, 1931; A.M., ibid., 1933; Ph.D., Cornell University, 1939.

Gimenez, Marta, Assistant Professor of Spanish (1965). Maestra Normal, Escuela Normal para Maestros de la Habana, 1946; Doctora en Pedagogia, Universidad de la Habana, 1954.


Gossett, Lucille, Assistant Professor of English (1937). B.A., Baker University, 1922; M.A., University of Wichita, 1940.

Gould, J. F., Assistant Professor of Music (1953). B.M.E., University of Wichita, 1940; M.M., University of Southern California, 1952.

Gray, James, Assistant Professor of American Civilization and History (1963). B.A., University of California at Los Angeles, 1954.

Griffith, Kathryn, Associate Professor of Political Science (1949). A.B., University of Wichita, 1947; M.P.A., Syracuse University, 1954.


Hammond, Geraldine, Professor of English (1932). A.B., University of Wichita, 1931; A.M., University of Kansas, 1932; Ph.D., University of Colorado, 1944.

Hanke, Jean J., Assistant Instructor in Administration (1964). B.A., Mills College, 1961; M.S., Wichita State University, 1965.

Hannum, Clair A., Professor of Biology (1946). B.S., University of Washington, 1923; M.S., ibid., 1924; Ph.D., ibid., 1942.

Hansan, John, Assistant Professor of Men's Physical Education (1964). B.S., University of Kansas, 1960; M.S., ibid., 1962.

Hanson, Gordon C., Professor of Educational Psychology (1938). A.B., Augsburg College, 1928; Ph.D., University of North Dakota, 1937.

Hanson, Loring O., Professor and Head of Department of Mechanics and Materials (1955). B.S. in C.E., University of Kansas, 1928; M.S. in C.E., University of Wisconsin, 1932.

Harder, Marvin A., Professor of Political Science (1947). A.B., University of Wichita, 1947; M.A., Columbia University, 1950; Ph.D., ibid., 1959. (Leave of Absence First Semester)


Harnsberger, John L., Associate Professor of History (1962). B.A., Hamline University, 1948; M.A., University of Minnesota, 1950; Ph.D., ibid., 1956.


Hecht, Sabrina M., Assistant Professor of Mathematics (1950). A.B., Kansas State Teachers College, Pittsburg, 1939; M.S., University of Michigan, 1945.


Henrion, Paul, Assistant Professor in University College and Director of Testing (1964). A.B., University of Wichita, 1951; M.A., ibid., 1956; Ph.D., University of Nebraska, 1964.

Herman, David T., Professor of Psychology (1949). A.B., Indiana University, 1940; M.A., ibid., 1942; Ph.D., ibid., 1947.


Higdon, Donald T., Associate Professor of Aeronautical Engineering (1964). B.S.A.E., University of Kansas, 1955; M.S.A.E., ibid., 1956; Ph.D., Stanford University, 1963.


Hinton, Evelyn A., Associate Professor of Educational Psychology and Supervisor of Improvement of Reading (1929). Graduate, Columbia Normal School of Physical Education at Chicago, 1924; A.B., University of Wichita, 1929; M.S., University of Washington, 1938.

Holman, Carol Schowalter, Assistant Professor of Education and Director of Audio-Visual Services (1942). B.M., University of Wichita, 1935; M.M.E., ibid., 1950.

Holmer, Robert M., Professor and Chairman of Division of Physical Education, Health and Recreation, and Head of Department for Men's Physical Education (1955). B.S., University of Kansas, 1941; M.S., ibid., 1948; Ph.D., State University of Iowa, 1954.

Holmes, Lowell D., Associate Professor of Sociology and Anthropology (1959). B.S., Northwestern University, 1950; Ph.D., ibid., 1957.


Irwin, Orvis C., Adjunct Professor of Logopedics 1959. B.A., Baldwin-Wallace College, 1914; M.A., Columbia University, 1924; Ph.D., Ohio State University, 1929.

Ivey, Frederick M., Assistant Professor of German (1962). A.B., Tulane University, 1960.

Jabara, F. D., Professor of Accounting and Dean of the College of Business Administration and Industry (1949). B.S., Oklahoma State University, 1948; M.B.A., Northwestern University, 1949; CPA Certificate, Kansas.


Jenkins, Alvin W., Jr., Associate Professor of Physics (1961). B.E.E., North Carolina State College, 1951; M.S., ibid., 1955; Ph.D., University of Virginia, 1958.


Johns, Buddy Ava, Jr., Assistant Professor of Mathematics (1964). B.A., University of Kansas, 1957; M.A., University of Kansas, 1960; Ph.D., ibid., 1964.


Johnson, John W., Jr., Associate Professor of Chemistry (1955). A.B., University of Wichita, 1952; M.A., ibid., 1953; Ph.D., University of Illinois, 1956.


Kenyon, G. Y., Associate Professor of Psychology (1965). B.S., University of Wichita, 1949; M.A., ibid., 1950; Ph.D., University of Rochester, 1957.


Kirkpatrick, Robert F., Associate Professor of Men’s Physical Education and Golf Coach (1949). B.A., University of Wichita, 1941; Ed.M., Boston University, 1948.


Laptad, Richard C., Assistant Professor of Men’s Physical Education (1964). B.S., University of Kansas, 1957; M.S., ibid., 1962.


Lindquist, Emory, University Professor and President (1953). A.B., Bethany College, 1930; B.A., Oxford University, 1933; M.A., ibid., 1937; Ph.D., University of Colorado, 1941; LL.D., Augustana College, 1952; L.H.D., Bethany College, 1963.


Logue, R. Duane, Assistant Professor of Logopedics (1964). B.S., Colorado State University, 1960; M.S., Purdue University, 1962; Ph.D., ibid., 1964.

Loper, Gerald D., Jr., Assistant Professor of


McCarten, John B., Assistant Professor of Chemistry (1964). B.S., Creighton University, 1958; M.S., ibid., 1960; Ph.D., State University of Iowa, 1964.


Marsh, T. Reese, Professor of English (1943). B.A., Johns Hopkins University, 1924; Ph.D., State University of Iowa, 1933.


Mayr, Peter, Assistant Professor of Political Science (1964). A.B., San Jose State College, 1959; M.A., University of California, Berkeley, 1961; Ph.D., ibid., 1964.

Merrill, Walter M., Professor and Head of Department of English (1959). B.S.L., Northwestern University, 1937; A.M., Harvard University, 1941; Ph.D., ibid., 1946.


Miller, William E., Associate Professor of Logopedics (1949). B.S., University of Wichita, 1940; M.A., ibid., 1947; Ph.D., Northwestern University, 1950.

Millett, John H., Professor of Political Science (1957). A.B., Beloit College, 1940; M.A., University of Cincinnati, 1942; Ph.D., University of Illinois, 1950. (Leave of Absence)

Minser, J. Robert, Associate Professor of Voice and Opera Workshop (1950). B.M.E., University of Wichita, 1950; M.S.M.E., University of Illinois, 1955. (Leave of Absence)


Mood, Robert Gibbs, Professor of English (1936). A.B., Southwestern University, 1920; A.M., Columbia University, 1924; Ph.D., University of Illinois, 1939.


Moorehouse, Melvin Paul, Associate Professor of Speech and Drama and Assistant to the Dean of University College (1957). B.A., Westminster College (Pennsylvania), 1935; M.A., Ohio State University, 1942.


Newman, Arthur N., Assistant Professor of Voice (1959). Saint Louis Opera Company; International Opera Company; NBC Opera Television and New York City Center Opera.


Nickel, Kenneth N., Professor and Head of Department of Education (1936). A.B., University of Wichita, 1936; M.A., University of Kansas, 1947; Ed.D., University of Colorado, 1957.


Noel, O. Carroll, Associate Professor of Education (1950). B.S., Kansas State Teachers College, Emporia, 1927; M.A., University of Wichita, 1946.

Norris, Roy, Assistant Professor of Electrical Engineering (1961). B.S.E.E., University of Wichita, 1959; M.S., ibid., 1962.


Olson, Richard E., Assistant Professor of Economics (1964). B.S., University of Nebraska, 1955; M.S., ibid., 1961.

Palmer, Martin F., Professor and Head of Department of Logopedics (1934). A.B., Olivet College, 1927; M.A., University of Michigan, 1931; Sc.D., ibid., 1937.

Parker, Albert R., Associate Professor of History

Patton, Bobby R., Assistant Professor of Speech (1961). B.A., Texas Christian University, 1957; M.A., University of Kansas, 1962. (Leave of Absence)


Poland, Leo A., Associate Professor of Accounting (1958). B.S., University of Kansas, 1947; M.B.A., Harvard University, 1948; D.B.A., University of Indiana, 1962.


Powell, Jackson O., Professor of Education and Dean of College of Education (1950). B.S., Southeastern State College, Oklahoma, 1941; M.S., Syracuse University, 1947; Ph.D., ibid., 1950.

Prontk, Henry, Professor and Head of Department of Psychology (1947). A.B., George Washington University, 1936; Ph.D., Indiana University, 1942.


Razak, Kenneth, Professor of Aeronautical Engineering (1943). B.S., University of Kansas, 1939; M.S., ibid., 1942.


Reid, Bill G., Assistant Professor of History (1964). A.B., Eastern New Mexico University, 1953; M.A., ibid., 1956; Ph.D., University of Oklahoma, 1963.


Richardson, William H., Assistant Professor of Mathematics (1962). A.B., Chico State College, 1959; M.S., Iowa State University, 1961.

Ricketts, Faye Margaret, Associate Professor and Head of Department of Secretarial Training (1931). A.B. in Business Administration, University of Wichita, 1927; M.B.A., University of Texas, 1932.


Robertson, James P., Distinguished Professor of Orchestra and Conducting; Director of University Symphony (1949). A.B., Drury College, 1931; B.M., ibid., 1933; M.A., Teachers College, Columbia University, 1944.


Ryan, Robert M., Associate Professor of Economics (1946). B.S., Michigan State Normal College, 1934; B.C.S., Detroit Business University, 1936; M.A., Wayne University, 1946.

Sabus, Francis John, Assistant Professor of Men's Physical Education (1956). B.S., State College of Iowa, 1951; M.A., State University of Iowa, 1956.

Sarachek, Alvin, Professor and Head of Department of Biology (1958). B.A., University of Missouri at Kansas City, 1949; M.A., ibid., 1950; Ph.D., Kansas State University, 1958.

Savaiano, Eugene, Professor and Head of Department of Spanish (1946). B.S., Kansas State Teachers College, Emporia, 1936; M.S., ibid., 1937; Ph.D., University of Chicago, 1948.


Schlesier, Karl, Associate Professor of Sociology and Anthropology (1962). Ph.D., University of Bonn, 1956.

Schmidt, Donald L., Assistant Professor of Mathematics (1963). B.A., Bethel College, 1953; M.S., Iowa State University, 1955; Ph.D., ibid., 1962.


Sevar, John B., Assistant Professor of Mechanical Engineering (1960). B.S.M.E., University of Wichita, 1960; M.S., ibid., 1962.

Sewrey, James A., Assistant Professor of Percus-

Sherman, Dorothy M., Professor of Education (1964). B.A., University of Oregon, 1932; M.A., ibid., 1934; Ph.D., Ohio State University, 1945.

Simon, Clarence T., Consulting Professor of Department of Logopedics (1958). B.A., Wittenberg University, 1919; M.A., Northwestern University, 1922; Ph.D., University of Iowa, 1925; Sc.D., Wittenberg University, 1954.


Snodgrass, Fritz M., Assistant Professor of Men's Physical Education and Track Coach (1956). B.S., Kansas State College, Pittsburg, 1926; M.S., ibid., 1942.

Snyder, Melvin H., Jr., Professor of Aeronautical Engineering (1947). B.S., Carnegie Institute of Technology, 1947; M.S., University of Wichita, 1950.


Sours, James K., Professor of Political Science and Dean of Fairmount College of Liberal Arts and Sciences (1951). B.A., University of Wichita, 1949; M.P.A., Harvard University, 1951; Ph.D., ibid., 1954.

Sowards, J. Kelley, Professor and Head of the Department of History (1956). A.B., University of Wichita, 1947; M.A., University of Michigan, 1948; Ph.D., ibid., 1951.

Spangler, Eugene C., Associate Professor of Speech and Drama, Director of Theater Services (1939). B.M., University of Wichita, 1939; M.F.A., State University of Iowa, 1950.


Steffen, Harry E., Associate Professor of Administration (1962). B.S., University of Colorado, 1942; M.S., ibid., 1948.

Steinbauer, Robert A., Associate Professor of Piano and Music Literature and Head of Department of Piano (1959). B.M., University of Michigan, 1950; M.M., ibid., 1951; Mus.D., University of Indiana, 1959.

Strange, John M., Associate Professor of Art (1944). B.F.A., University of Oklahoma, 1930; M.S., Fort Hays Kansas State College, 1938.

Stuart, David O., Professor and Head of Department of Mechanical Engineering (1960). B.S.M.E., Iowa State University, 1947; Ph.D., ibid., 1957.

Sadermann, Frederick, Assistant Professor of Political Science and Director of Special Services (1964). B.A., University of Wichita, 1958; M.A., ibid., 1960.

Swartz, Paul, Professor of Psychology (1956). B.A., University of Buffalo, 1947; M.A., Stanford University, 1949; Ph.D., University of Rochester, 1951.

Taggart, Gladys Martha, Professor and Head of Department of Physical Education for Women (1928). B.S., State University of Iowa, 1923; M.A., Teachers College, Columbia University, 1928; Ph.D., New York University, 1939.

Tasch, Paul, Professor of Geology (1955). B.S., College of the City of New York, 1948; M.S., Pennsylvania State University, 1950; Ph.D., State University of Iowa, 1952.

Taylor, Ross McLaury, Professor and Head of Department of American Civilization (1939). A.B., University of Oklahoma, 1930; M.A., ibid., 1933; Ph.D., State University of Iowa, 1938.

Teall, Mary Jane Woodard, Assistant Professor of Speech and Dramatic Art (1946). B.A., Northwestern University, 1933; M.A., ibid., 1937.

Teresa, George W., Associate Professor of Biology (1963). B.S., Arkansas A. & M College, 1952; M.S., University of Arkansas, 1955; Ph.D., Kansas State University, 1959.

Terflinger, Curtis D., Associate Professor of Administration (1957). B.A., University of Kansas, 1953; LL.B., ibid., 1955.


Teufel, Hugo, Jr., Assistant Professor of Mathematics (1963). B.S., University of Kansas, 1955; M.S., University of New Mexico, 1960.


Ungs, Thomas D., Assistant Professor of Political Science (1960). B.A., University of Iowa, 1951; M.A., ibid., 1952; Ph.D., ibid., 1957.

Unruh, Henry, Jr., Associate Professor of Physics


Wall, Hugo, Professor of Political Science, Vice President - Academic Affairs, Dean of Graduate School, and Director of Summer Session (1929). A.B., Leland Stanford University, 1926; Ph.D., ibid., 1929.


Wallingford, Frances A., Assistant Professor of Piano (1956). B.M., Southwestern College, 1951; A.B., ibid., 1953; M.M., University of Wichita, 1956; Certificates, American Conservatory in Fontainebleau, France, 1928 and 1963.


Welsbacher, Richard C., Assistant Professor of Speech (1958). A.B., Denison University, 1948; M.A., University of Denver, 1950; Ph.D., Ohio State University, 1964.


Wieber, Raymond F., Assistant Professor and Counselor in University College (1965). A.B., Tabor College, 1953; M.S., Kansas State University, 1965.

Wilkes, Mary Nell, Assistant Professor of Secretarial Training (1950). B.S., Texas Women's University, 1939; B.B.E., University of Colorado, 1961.


Wrestler, Ferna E., Associate Professor of Mathematics (1947). B.S., Kansas State Teachers College, Pittsburg, 1924; A.B., University of Kansas, 1925; M.A., ibid., 1926.


LIBRARY STAFF -- 1964-1965


Carson, Doris M., Assistant Professor and Cataloger (1957). A.B., Kansas Wesleyan University, 1933; M.A., University of Kansas, 1941; M.S., University of Illinois, 1954.

Cowles, Josephine M., Associate Professor, Head Cataloger (1947). Sc.B., Ottawa University, 1928; B.S., in L.S., University of Illinois, 1938; M.S., ibid., 1940.


Dybdahl, Russell E., Assistant Professor, Documents Librarian (1956). B.A., Union College, 1937; M.A., University of South Dakota, 1947.

Johnson, Ellen M., Assistant Professor and Reference and Circulation Librarian (1959). A.B., Friends University, 1939; B.S. in L.S., University of Illinois, 1941.


O'Hara, Downing P., Professor and Head Librarian (1935). A.B., Southwestern College, 1925; A.M., University of Illinois, 1929.

Paddock, Beatrice, Assistant Professor and Humanities Reference Librarian (1962). A.B., Friends University, 1926; A.B.L.S., University of Michigan, 1930.


Taggart, Thoburn, Jr., Assistant Professor and Social Science Reference Librarian (1962). B.A., The University of the South, 1953; M.A., George Peabody College for Teachers, 1958.

Van Keuren, Katharine, Associate Professor and


RETIRED FACULTY

Albright, Penrose S., Professor Emeritus of Physics (1943). B.S., Rensselaer Polytechnic Institute, 1922; M.S., University of Wisconsin, 1929; Ph.D., ibid., 1936.


Branch, Hazel Elisabeth, Professor Emeritus of Zoology (1922). B.A., University of Kansas, 1908; A.M., ibid., 1912; Ph.D., Cornell University, 1921.

Cox, A. D., Retired Assistant Professor of Industrial Arts Education (1952). B.S., Kansas State Teachers College, Pittsburg, 1925; M.A., University of Wichita, 1940.

Downing, Jacquetta, Professor Emeritus of French (1917). A.B., Fairmount College, 1921; M.B., ibid., A.M., University of Kansas, 1922; L'institut de Phonétique (Sorbonne), 1929.


Haymaker, Mary, Associate Professor Emeritus of English (1925). A.B., Fairmount College, 1925; M.A., University of Colorado, 1927.

Hekhuis, Lambertus, Dean Emeritus of College of Liberal Arts and Sciences (1926). A.B., Hope College, 1913; M.A., ibid., 1916; B.D., University of Chicago, 1925; Ph.D., ibid., 1925.


McDonald, Clinton C., Professor Emeritus of Biology (1926). A.B., University of Indiana, 1922; M.A., ibid., 1924; Ph.D., ibid., 1926.

Rydjord, John, Dean Emeritus of Graduate School (1926). A.B., University of Wisconsin, 1922; M.A., Northwestern University, 1923; Ph.D., University of California, Berkeley, 1925.


Wilkie, Grace, Dean Emeritus of Women (1912). A.B., University of Kansas, 1912; M.A., Columbia University, 1926.


APPLIED MUSIC INSTRUCTORS — 1964-1965

Albertson, John
Burleson, Mary Ellen
Callan, Edward
Graber, Kenneth
Green, Betty
Halgedahl, Howard
Hersey, J.
Jamison, Ines
McConnel, James
Miller, Marguerite
Oldenburg, Sally
Pease, Beatrice
Pouliot, Adrian
Powell, Craig
Roller, Roger
Sawatsky, Roland
Suderman, Leland
Swan, Clara
Sweazy, Anne
DESCRIPTION OF THE UNIVERSITY

Wichita State University traces its origin to Fairmount College, which was founded by the Congregational Church in 1895. In 1926, the voters of Wichita adopted the proposal that Fairmount College become a municipal institution. This was achieved by the establishment of the Municipal University of Wichita that year. The Kansas legislature and the citizens of Wichita voted in 1963 to establish Wichita State University as of July 1, 1964. The Kansas Board of Regents is the governing body of the University.

The University campus, some 140 acres in extent, is located in the northeastern section of the city, atop the highest slope in Sedgwick County. At present, the campus contains 45 buildings and Veterans Field. The Institute of Logopedics is located at 2400 Jardine Drive.

The Wichita State University has the following organization which is designed to achieve the educational purposes of the institution. The University College, Fairmount College of Liberal Arts and Sciences, College of Business Administration and Industry, School of Engineering, College of Education, College of Fine Arts, Graduate School and Summer School. Baccalaureate degrees are awarded through courses in the Fairmount College of Liberal Arts and Sciences, College of Business Administration, School of Engineering, College of Education, and College of Fine Arts. The Graduate School offers the master's degree in a variety of fields of study and the doctor of philosophy in the College of Education through the Department of Logopedics.

The University College provides the location for entering freshmen to receive counsel and guidance before transferring to a degree granting unit. This college also has the responsibility for continuing education and technical education. The general area of student services is presently included in the scope of the University College's function.

Programs at Wichita State University are accredited by the following professional organizations: North Central Association of Colleges and Secondary Schools, the National Council for the Accreditation of Teacher Education, the National Association of Schools of Music, the American Chemical Society Committee for the Professional Training of Chemists, and the Engineers' Council for Professional Development.

Women graduates of the University with Bachelor's degree or higher are eligible for membership in the American Association of University Women.

When the University faculty adopted in May, 1957, the basic curriculum in general education for all baccalaureate degrees, the following was declared: "The responsibility of colleges and universities in general education is to develop as fully as possible the potentialities of every student as a person and citizen. This responsibility is based upon the premise that there are certain basic skills and values which should be shared by all citizens in a democracy regardless of their vocational and professional objectives." A second objective is to provide advanced and professional education. Programs of study leading to baccalaureate degrees in liberal arts and sciences and in professional fields provide opportunities for adults on either a credit or non-credit basis. Moreover, a university should not only transmit knowledge, it should add to the world's knowledge and thus promote the welfare of man and society. This provides the basis for another objective: graduate studies and research. A university also has responsibility to furnish leadership in various cultural activities, to promote studies of civic problems, and to relate the knowledge and experience of the faculty to the business and industrial community. While a university reflects, in a measure, society and its aspirations, it must seek to place students on the line of discovery for more effective citizenship and more abundant living.

In summary, the four basic and historic objectives of Wichita State University are as follows: (1) to provide general education; (2) to provide advanced and special education; (3) to provide continuing educational opportunities for adults; (4) to provide graduate studies and to stimulate research. These objectives have been established across the years and represent the current pattern of the University.

ADMISSION REQUIREMENTS

All students entering Wichita State University for the first time must file an application for admission with the Office of Admissions, Wichita State University. Transcripts of high school and college work must be submitted before a student may enroll.

Transcripts received in the office of the Director of Admissions will not be returned to the applicant. If the student enrolls, the transcripts are retained by the University for its official files. If a student does not enroll, the transcripts are destroyed.

New students may begin their college study during the Summer Session, the Fall Semester, or the Spring Semester. The application and supporting transcripts must be received well in advance of the term in which the applicant wishes to begin study. An application for admission should be mailed by June 1 for the fall semester and by December 1 for the spring semester. Both application and transcripts of previous work must be received on or before August 10 for fall registration and January 15 for spring registration. Applications by Kansas residents received after these dates will be processed as vacancies in University programs permit. High school seniors are encouraged to make application early during the senior year of high school. Prospective students are invited to visit the campus for the purpose of discussing their educational plans with University staff members, and the student should begin his visit by reporting first to the Admissions Office, Jardine Hall.
Freshmen:

1. Any graduate of an accredited Kansas high school who has not previously attended a college will be admitted to Wichita State University. If the student’s high school index places him in the lower half of his graduating class, the student will be admitted on probation and the University reserves the right to place him in a remedial program of its own description.

2. A graduate of an out-of-state accredited high school or preparatory school will be eligible for admission to Wichita State University if the applicant ranks in the upper one-half of his high school graduating class. Exceptions may be made under special circumstances when valid reasons prevail. Priority of admission among out-of-state students will be given to the sons and daughters of alumni of this University.

3. An applicant without a secondary school diploma who wishes to be considered for admission to freshman standing should present his case to the Director of Admissions. Students who have not completed high school may be admitted upon the presentation of fifteen acceptable units of proper quality, statement from the high school principal, and approval of admissions committee. The University Committee on Admissions will examine the evidence for admission and make its determination upon the individual merits of the case.

4. Admission of special students is restricted to persons over 21 years of age who are not candidates for degrees. Upon completion of sixty semester hours with a 2.00 average, a special student may petition for admission to regular standing. Any other special petitioner should present his case through the Director of Admissions for the Committee on Admissions.

All entering freshmen are enrolled in the University College and are required to complete the American College Testing Program Battery, the freshman reading test, and a Health Certificate, as a part of their enrollment in University College. The dean of the University College will send all freshmen complete information about orientation and enrollment. High School seniors should arrange to complete the American College Testing Program Battery through the offices of their high school principal or counselor.

Transfers:

Students who have been enrolled in other colleges or universities will be eligible for admission to undergraduate study if they have honorable dismissal from the last recognized college or university attended and meet the required scholastic standards of Wichita State University.

Transfer students with 15 or more units of acceptable college credit are not required to complete the freshmen examinations.

Transfer students with 24 or more acceptable hours, and not on probation, are eligible to apply for admission to a baccalaureate degree college.

Admission to Advanced Standing

The regulations governing admissions to advanced standing in the colleges of Wichita State University are administered by a committee on advanced standing which evaluates the credentials of each candidate.

These credentials must include original official transcripts of preparatory school records and college records, a certificate stating that the student is eligible to return to the college or university last attended, and a statement telling in which college of the University the student expects to continue his work.

The maximum advanced standing credit for work done in a junior college is one half of the total required for the degree objective at Wichita State University. In no case will work done in a junior college be credited as work of the junior or senior years in the University.

A student transferring from an accredited institution shall receive the credit in the courses submitted, without presentation of a written examination, provided it supplements the work in the curriculum in which he is enrolled.

The distribution of courses which are to fulfill either a major or minor presented by a transfer student must be approved by the head of the department concerned. In the event the courses transferred complete the pattern required at Wichita State University, the requirement of additional work is at the discretion of the department head. Should the pattern involve two or more departments, approval of each must be secured.

Credit By Examination

Advanced standing credit may be obtained by examination. A student desiring advanced standing credit by examination should file a petition with the Committee on Admission, Advanced Standing, and Exceptional Programs. No one may apply for permission to take an advanced standing examination until he has a minimum of 15 semester hours of credit at Wichita State University. If the request for an examination is approved by the committee, the student will pay the Comptroller the $5.00 fee. Upon presentation of the receipt from the Comptroller, the assigned instructor will give the examination. Credit will be granted only if a grade of C or better is attained and approval is given by the Committee. D and F grades will be recorded on the student’s transcript.

Advanced Placement Credit

The designation “Advanced Placement” - programs, or credit, refers specifically to the courses offered in many high schools, constructed and coordinated under the supervision of the College Entrance Examination Board; examinations furnished by the C. E. E. B. are taken by the student and later sent to the Educational Testing Service for grading, and subsequently sent by E. T. S. to the college or university of the student’s choice. Tests are assigned grades from a low of (1) to a high of (5); at most universities such numerical designations have no necessary relationship to letter grades. Although most universities automatically grant credit for a grade of 4 or 5, and in some cases for a 3.

At Wichita State University, Advanced Placement credit may be granted in the areas of Biology, Chem-
istry, English, French, German, History, Mathematics, Physics, and Spanish. The corresponding university department, however, reserves the right to determine the eligibility of the student for Advanced Placement credit. Such credit may be regarded as comparable to other transfer credit, in that no fee is charged, nor is the student re-examined over such credit or content.

Entering freshmen who score a 1 on the CEEB will be placed in English 225 rather than English 111; those who score 2 or 3 will receive three hours credit for English 111 and will also go into English 225 to complete their six hours core requirement in composition; those scoring 4 or 5 will receive credit for both English 111 and 211, thus completing their composition requirements.

ADMISSION TO GRADUATE SCHOOL

Applications for admission to graduate standing should be filed with the Graduate School three weeks in advance of the registration day, and should be accompanied by two complete and official transcripts of all college work not already in the Registrar's office at Wichita State University.

Students have no official status in the Graduate School until their applications and transcripts are on file and the transcripts have been evaluated by the Graduate Office.

Wichita State University offers graduate work in the following departments: Accounting, Administration, Aeronautical Engineering, Art, Biology, Chemistry, Economics, Electrical Engineering, English, Geology, History, Logopedics, Mathematics, Mechanical Engineering, Music, Philosophy and Religious Education, Physical Education, Physics, Political Science, Psychology, Sociology and Anthropology, Spanish, and Teacher Education.

For graduate work a prerequisite of 24 hours is required in the major field except for Education where the requirements for state certification serve as the prerequisite. Exceptions to these rules may be made when the objectives require a combined undergraduate major. The following departments require a reading knowledge of a modern foreign language for the master's degree: Biology, Chemistry, English, Geology, History, Logopedics and Psychology. The department of Sociology and Anthropology makes the requirement contingent upon the nature of the thesis topic. The Spanish department requires a reading knowledge of a second Romance language or of Latin. The Department of Art requires that Art History students pass a reading examination in French or German. Language requirements must have been completed before the student is admitted to candidacy.

An application to candidacy should be filed in the Graduate Office upon completion of 10 graduate hours toward the degree. This application must be filed upon the completion of 15 graduate hours.

For admission to full graduate standing an applicant must have a 2.5 grade average in all work undertaken during the junior and senior years, and a four-year average of 2.5 in his major and minor work.

In Logopedics a program leading to a Ph.D degree is offered.

GRADUATE CREDIT FOR SENIORS. Seniors at Wichita State University who have an overall grade point index of 3.0 or above in the major field and in upper division courses and who are within 10 hours of completing the Bachelor's degree may take work for graduate credit. However, this work must be beyond the requirements for their undergraduate degrees, for which they must then be enrolled, and the students must have been admitted to the Graduate School. Application for graduate credit must be made to the Graduate School and approved by the Graduate Office, the student's undergraduate Dean, and his major advisor, before the course(s) may be taken for graduate credit.

For further information inquire at the graduate office or request a graduate bulletin from the Dean of the Graduate School.

REGISTRATION

Specific information regarding registration is set forth in the Schedule of Classes published for each semester, and must be observed in order to avoid payment of a late registration fee. Registration will not be permitted after the second week of classes.

RESIDENCE DEFINED

I. The residence of students entering Wichita State University is determined by an act of the legislature (Sec. 76-2701 G. S. 1949), which reads as follows:

“Persons entering the state educational institutions who, if adults, have not been, or if minors, whose parents have not been, residents of the state of Kansas for six months prior to matriculation in the state educational institutions, are non-residents for the purpose of the payment of matriculation and incidental fees: Provided further, that no person shall be deemed to have gained a residence in this state for the aforesaid purpose while or during the lapse of time attending such institutions as a student, nor while a student of any seminary of learning, unless, in the case of a minor who has neither lived nor been supported by his parents or either of them for three years or more prior to enrollment and during said years has been a resident in good faith of the state of Kansas.”

II. The responsibility of registering under proper residence is placed on the student. If there is any possible question of residence under the rules of the college, it is the duty of the student when registering and paying fees to raise the question with the Registrar.

FEES

1. Incidental Fee
   Resident (Graduate and Undergraduate) $ 7 per credit hour
   Non-Resident (Graduate) $10 per credit hour
   Non-Resident (Undergraduate) $20 per credit hour

2. Campus Privilege Fee
   The Campus Privilege Fee is required of every student enrolled for work on the Wichita State
University campus at the rate of $2.25 per credit or clock hour during the regular semesters and $2.00 during the summer session, in accordance with University policy. The fee will be distributed to pay for Parking, Student Union, and Library Revenue Bonds, and for Student Health Services, Athletic Admissions, forensic, student government association, University Forum, student publications, concerts, drama, opera productions, etc.

3. Library Revenue Bond Fee
A Library Revenue Bond Fee of $2.50, per student per semester and summer session, is charged to support the Library Revenue Bond issue.

4. No fee will be charged for Music 111-512A, 111-512B, 111-512F and 111-512M or for Recital if presented for audit.

5. The fee for Psychology 60, Improvement of Reading Techniques, a service course carrying no credit, is $10.00 for either resident or non-resident students.

6. The charge per semester hour for courses audited is the same as for courses taken for credit. The charge for non-credit courses, unless otherwise specified, is the same as for credit courses.

7. Mathematics 50, 60 and 70 will be charged incidental fee rates on a clock hour basis.

8. Departmental Fees
Air Science Activity fee ............ $9.50
Military Science Activity fee .......... 9.50

Music — Practice Room Rental Fee
No additional charge for graduate or undergraduate students enrolled in a program with major emphasis in music or for music minors in the College of Education. The schedule below applies to all other persons:

<table>
<thead>
<tr>
<th>Resident &amp; Non-Resident</th>
<th>Semester</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organ (University)</td>
<td>$10.00</td>
<td>$5.00</td>
</tr>
<tr>
<td>All Other</td>
<td>5.00</td>
<td>3.00</td>
</tr>
</tbody>
</table>

Music — Instrument Rental fee of $4.50 per semester and summer session is charged each student requesting the use of a musical instrument owned by Wichita State University.

Music — Private Lessons — No additional charge for graduate or undergraduate students enrolled in a program with major emphasis in music or for music minors in the College of Education.

<table>
<thead>
<tr>
<th>Resident &amp; Non-Resident</th>
<th>Semester</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost for 1 credit hour</td>
<td>$23.00</td>
<td>$11.50</td>
</tr>
<tr>
<td>Cost for 2 credit hours</td>
<td>42.00</td>
<td>21.00</td>
</tr>
</tbody>
</table>

9. Miscellaneous Fees
Late Registration Fee .............. $15.00
A fee of $15 is charged for registration after the beginning of classes.
Credit by Examination ............ $5.00

A fee of $5.00 is charged for every examination administered for advanced standing credit, payable in advance of the examination.

Transcript ......................... $1.00
A fee of $1.00 is charged for each transcript after the first copy which is prepared without cost.

Teacher Placement Fee ............ $2.00
A fee of $2.00 per student is charged for those requesting teacher placement service.

10. Deposits
In certain courses deposits are required to cover the cost of supplies and equipment furnished by the University for the convenience of the student, to provide for the replacement of University equipment checked out to the individual student and lost or broken while in his possession, or to cover the cost of transportation for Geology field trips. That portion of the deposit, if any, which remains after the actual cost of these services has been deducted will be returned to the student at the completion of the semester. The following courses require deposits as indicated:

Chemistry:
All laboratory courses ............. each $10.00
Geology: 225, 335 .................... each 5.00
Geology: 336 .......................... 15.00

The Registrar is responsible for assessment of student fees; the Controller is responsible for their collection. A committee consisting of the Business Manager, the Dean of the Graduate School, and the Dean of the College of Business Administration constitutes a Board of Appeals for students who believe their fees have been incorrectly assessed. The decision of this committee is final.

11. Period of Payment
All semester fees (including private music lesson fees, practice room rental fees, the laboratory fees) are due and payable in full not later than thirteen calendar days after the day of beginning of classes of the semester. The enrollment of any student whose fees are not paid in full on the fourteenth calendar day after day of beginning of classes will be cancelled by the Registrar’s Office. (Fees of students sponsored by recognized foundations or loan funds are presumed to be paid on presentation to the Controller of written recognition of responsibility for such fees.)

12. Refunds
In case of withdrawal from the University within thirteen days after the first day of classes, the total amount of incidental, campus privilege, private lessons and practice room rental fees paid by the student will be refunded to the student upon his application, except for $15 of non-returnable fees. In case of withdrawal after the thirteenth day after the first day of classes, and during the first one-third of the semester or
summer session, one-half the amount of incidental, campus privilege, private lesson, and practice room rental fees paid by the student will be refunded to the student upon application, except for $15 of non-refundable fees. No refund of fees is made to the student withdrawing after the first one-third of the semester or summer session.

13. Continuing Education
Credit Courses per semester credit hour:
   Resident ........................................... $ 7.00
   Non-Resident (Undergraduate) ............... $20.00
The Campus Privilege Fee is required of every student enrolled for work on the Wichita State University campus at the rate of $2.25 per credit or clock hour during the regular semester and $2.00 during the summer session, in accordance with University policy.

REGULATIONS GOVERNING SCHOLARSHIP
Grading Notation

Grades are A, B, C, D, I, F, Wf, Wd, Aud., and Cr.
A indicates distinguished achievement
B indicates superior achievement
C indicates average achievement
D indicates below average
F indicates failure; the work must be repeated in class in order to receive credit
Wf indicates withdrawal from a course in which the student was doing failing work. Counts as F
Wd indicates withdrawal from a course in which the student was doing passing work
Aud indicates audit
Cr indicates credit

The grade incomplete (I) is used when a student may have further time, at the discretion of the instructor, to complete the required work. This work must be completed by the end of the sixth week of classes of the semester in which the student re-enrolls. If the work is not completed in this period, the incomplete grade becomes an F. If a student re-enrolls in a course in which he has received an incomplete grade, the incomplete will become either an F or a Wd at the discretion of the instructor or Dean.

No student may enroll in any course more than three times. Each time a student's academic record shows any grade, including Wd or Wf, for a given course, this constitutes an enrollment in that course. Exceptions may be made by concurrence, in writing, of the heads of the student's major department and the department offering the course. No course in which a grade of "C" or better has been earned may be repeated for credit.

An auditor may enroll in a class but will receive no credit therefore. He may do all of the required work, a portion thereof, or no work at all. For the record, attendance and failure to do the required work will be reported to the respective deans. Fees for audit are identical with those set for the credit course. Auditing a course later to be pursued for credit is not approved.

The change from audit to credit in the course, or the reverse, is effected through the regular change of course cards with the attendant signatures required. No student may make the change from credit to audit unless he is earning a passing grade at the time of the change. After the tenth week of the semester, the student may not change from credit to audit. Courses in Secretarial Training may not be audited.

The grade Cr is given for successful completion in courses for which no letter grade is given.

Credit Points and Credit Point Index

For each hour of work which the student takes, credit points are given according to the grade attained as follows: A, 4 points; B, 3 points; C, 2 points; D, 1 point; I, Wd, and Aud, F and Wf, no points. The "credit point index" for any term is calculated by dividing the number of credit points earned by the number of credit hours attempted and for which a grade (including F and Wf) was received. The "cumulative credit point index" is calculated by dividing the Total number of credit points earned in college by the Total number of credit hours attempted and for which a grade (including F and Wf) has been received. Exception: When a course is repeated for credit, the last enrollment and grade will be used in computing the cumulative grade point index.

Probation and Suspension Standards
A. Probation
1. A student will be placed on probation for the next term in which he enrolls if his cumulative grade point index falls below the following levels:
   a. 1.500 if the student has earned 1 to 63 credit hours
   b. 1.700 if the student has earned 64 or more credit hours.

2. Probation is removed when the cumulative grade point index reaches the required level.
3. The student remains on probation if he earns at least a 2.000 index in the term during which he is on probation and his cumulative grade point index does not yet meet the minimum standards.
4. A student on probation may not enroll for more than 12 semester hours in an eighteen week term or 2/3 as many hours as the number of weeks for which he is enrolled in the summer term, plus one hour of military or air science, physical education, or marching band. Exceptions to this limitation may be made on recommendation of the student's advisor with the approval of his Dean. Such exception is to be
B. Suspension

1. A student on probation shall be suspended if his cumulative grade point index fails to meet the required minimum standards and if his grade point index for the term during which he is on probation falls below 2.000.

2. After a lapse of at least 18 weeks the student must apply for readmission on final probation. If he is readmitted and fails to achieve the required cumulative grade point index while on final probation, and if his grade point index for that term falls below 2.000, he shall again be suspended. Application for readmission will not be considered in less than one calendar year. Applications for readmission after any period of suspension will be considered on the merits of the individual case. Note: No student on probation who enrolls in fewer than seven hours shall be suspended for failure to raise the cumulative grade point index to the required level; however, if such a student has earned 12 or more hours in two or more terms, the cumulative grade point index including these hours shall be used to determine whether he shall be suspended.

Students are expected to maintain a C average in all work for which they are registered for credit during any semester. Failure to maintain this standard implies the advisability of limiting the student’s program.

No student shall be allowed credit toward graduation for D grade work in excess of one-quarter of total hours.

At the end of the first eight weeks in each semester, reports of unsatisfactory grades are sent to the student.

Classification of Students

Students are classified according to the following table:

- Freshmen: Under 24 semester hours and 48 credit points
- Sophomores: 24 semester hours and 48 credit points
- Juniors: 50 semester hours and 120 credit points
- Seniors: 90 semester hours and 200 credit points

Eligibility For Courses

Courses numbered 99 or below are non-credit courses.

Courses numbered 100 to 199 are primarily for freshmen, but students from other classes may be admitted for lower division credit.

Courses numbered 200 to 299 are primarily for sophomores, but juniors and seniors may be admitted for lower division credit. Freshmen may be admitted if they are qualified and are not expressly excluded.

Courses numbered 300 to 399 are primarily for juniors. Seniors will be admitted. Freshmen and sophomores are excluded except as noted below.

Courses numbered 400 to 499 are primarily for seniors. Juniors may be admitted if they meet the prerequisites and are not specifically excluded. Freshmen and sophomores are excluded except as noted.

Courses numbered 500 to 699 are for graduate students only, and no student may be admitted to these courses unless he has been admitted to the Graduate School. See page 15 for special conditions under which seniors may be admitted to graduate courses.

Students with completed prerequisites in industrial education, language, mathematics, physics, Air Science and Military Science courses may be admitted to upper division courses in sequence for upper division credit. Lower division students who have completed Adm. 266 may be admitted to Adm. 366 for upper division credit. With these exceptions lower division courses must be taken exclusively until the student has completed 50 hours and 120 credit points, when he may elect upper division courses.

Limitations on Student Load

Except in the School of Engineering, the maximum semester schedule for freshmen is 16 hours, for sophomores 17 hours, and for upperclassmen 18 hours, to each of which may be added one hour of military or air science or physical education. Half the hours of a course audited count toward the maximum. To register in upper division courses, except by special permission, a student must have completed 50 semester hours and attained 120 credit points.

A student whose average for the last 30 hours of work or whose over-all average for more than 30 semester hours is 2.600 or above may apply to his Dean for permission to take one hour in excess of the maximum load in any session; if the average is 3.000 he may apply for permission to carry two hours in excess. A student with a cumulative credit point index of 3.25 or above may carry more than two excess hours during a semester or summer term without petition. Students in the School of Engineering must apply for permission to take hours in excess of those prescribed in the engineering curricula. At least a portion of the student’s prior work must have been taken in Wichita State University.

Exemptions for Superior Achievement

A student who has completed a minimum of twelve hours at Wichita State University and has a cumulative credit point index of at least 3.25 and a credit point index of at least 3.00 the previous semester may be granted the following privileges.

1. Exemption from regulations governing the maximum number of hours a student can take during a semester or summer term.
2. Exemption from college regulations, if any, governing the maximum number of hours a student can take during a semester in one department.
3. Permission to enroll in 300 and 400 courses prior to having established 50 semester hours and 120 credit points.
4. Permission to have course prerequisites waived with the consent of the instructor of the course and the head of the department in which the course is taken.

University Honors Program

Each year a limited number of exceptional freshmen are invited to participate in the University Honors Program. Students not admitted to the program as entering freshmen may be admitted to the
program if they demonstrate superior performance and potential in their studies at the University. Exceptional transfer students may also be invited to participate.

Honors Courses

Specially designated honors sections, at both lower division and upper division levels, are normally offered each semester. These sections are restricted to honors students and are gauged to meet the needs of the superior student.

Honors courses, which are not regular class work but are individual programs of study carried by the student as original projects under the direction of a professor, are also open. These courses are intended to permit individual research or other creative projects. A student need not be in the general honors program, as described above, to enroll in individual projects. Any student who has attained junior standing and whose record shows a cumulative grade index of at least 3.00 is eligible to apply for admission to an Honors Course in the field of his major study. The course may be pursued for one or two years. During that time the student's grade index shall not fall below 2.80.

The application for admission to an Honors Course must include a written statement of the proposed project for individual study. This must be recommended by the dean of the college, the head of the department, and the instructor under whom the work will be taken. The application must be filed in the Graduate Office not later than the beginning of the senior year and be approved by the Graduate Council.

Academic credit up to a maximum of six semester hours may be earned in an Honors Course, with individual departments determining the maximum credit which may be earned in that department. Upon completion of all requirements, the student will be graduated with honors in the field of his major study, and his diploma will carry a statement to that effect. Should he fail to secure honors, credit will be applied toward the regular degree.

To secure graduation with honors, the student must complete his project to the satisfaction of the faculty adviser, write a thesis or its equivalent on his study, and pass an oral examination over his thesis and his major field.

A committee of three shall be appointed by the dean of the Graduate School to conduct the oral examination.

Student Responsibility

1. The student shall consult his adviser on all matters pertaining to his academic career, including any change in his program.
2. The student shall observe all regulations of his college, and shall select courses according to the requirements of his college.
3. The student shall attend all meetings of each class for which he is enrolled. The instructor will announce at the beginning of the semester whether he considers attendance in computing final grades.
4. The student shall fulfill all requirements for graduation.
5. The student shall be personally responsible for the fulfillment of all University requirements and the observation of all University regulations.

Withdrawal

I. Voluntary Withdrawal on the part of the student from a course or courses in which he is enrolled must follow official procedure:

Procedure

1. Consult adviser; obtain Drop slip(s) at this time, and have adviser sign in appropriate place.
2. Take Drop slip(s) to instructor(s) for grade and signature. (This step may be omitted during the first week of classes.)
3. Take Drop slip(s) and Paid Fee Bill to Dean's Office for final signature.
4. Take completed Drop slip(s) and Paid Fee Bill to the Registrar's Office.
5. Refund, if any, will be made according to the schedule published in the Schedule of Classes.
6. Complete withdrawal from the University must be made in writing to the Dean's Office.

Grade

1. A Drop slip marked "Wd" indicates that withdrawal from the course has occurred, but no grade has been earned.
2. A Drop slip marked "Wf" indicates that withdrawal from the course has occurred, that a grade of "Wf" will appear on the student's permanent record, and that this grade will count as an "F" when the student's grade point average is calculated.
3. During the first ten weeks of the semester (or the corresponding period of a summer session), a student may withdraw by official procedure from a course with either "Wd" or "Wf" depending on his status in the course at the time of withdrawal, as judged by his instructor.
4. After the tenth week of the semester (or the corresponding period of a summer session), a student who withdraws from a course shall receive the grade of "Wf" unless he makes complete withdrawal from the University, in which case his grades shall be determined by his instructors according to his status in the courses at the time of withdrawal.

II. Administrative Withdrawal may be initiated by the student's Dean's Office in the following instances:

Class attendance so irregular that in the instructor's opinion full benefit cannot be derived from the course;
Consecutive absence for two weeks or more;
Failure to withdraw from one or more classes by the official procedure given above;
Failure to make complete withdrawal from the University by the official procedure given above.
Failure to be accepted by a baccalaureate college before the completion of 72 credit hours.
Procedure

1. The student will be notified by the Dean’s Office before final action is taken, and will be given a chance to explain his position.

2. In the case of official notices from the Dean’s Office which are ignored, or returned because the address given by the student at the time of enrollment is incorrect, Administrative Withdrawal will take place.

Grade

A grade of “Wf” will be officially recorded on the student’s permanent record for a course or courses from which he is officially withdrawn; this grade will count as an “F” when the student’s grade point average is calculated.

Rules Regarding Examinations

No re-examination shall be given. The grade received on a regular quiz or examination shall be final.

Special examinations, when requested, will be given only with the dean’s consent.

A student who misses an assigned examination should arrange with his instructor to take a make-up examination. The Dean of the college will serve as arbitrator only when he deems it necessary.

UNIVERSITY REQUIREMENTS FOR GRADUATION

1. A total of at least 124 hours of credit, acceptable toward the degree for which the student is working. This means hours of credit earned and does not include courses with grades of Wd, Wf, Aud, or I.

In addition, a student must have a credit point index of 2.00 or over at the time of graduation. This rule applies to students whose first date of admission to any institution of collegiate rank was on or after September, 1958.

2. A credit point index of 2.00 or better must be achieved in the student’s major.

3. A minimum of 40 hours taken in courses numbered 300 and 400 after a total of at least 50 hours and 120 credit points has been attained.

4. At least 30 hours must be taken at Wichita State University and 24 of the last 30 hours or 50 of the last 60 hours must be taken in residence.

Not more than six hours of the last thirty or ten hours of the total number of hours required for graduation may be non-resident work, such as extension or correspondence courses, provided the dean of college consents.

5. Prescribed Fields of Study (“Core Curriculum”)

I. Mathematics and Natural Sciences: 9 hours. Courses must be taken in at least 2 of the three subdivisions; a minimum of four hours must be a laboratory science.

a. Mathematics: 121 (3), 141 (5); alternates: any mathematics course taken for credit.


II. Communications: 8 hours. 6 hours must be in English composition or grammar* and 2 in Speech 111.

a. English 111* (3); and one of the following courses: 211 (3), 225 (3), 311 (3), 312 (3), 313 (3), 314 (3), 315 (3).

b. Speech 111 (2), additional courses: 212 (2), 228 (3).

*Students exceptionally qualified in English as selected by the English Department may be exempted from the composition requirement, or may be invited to enroll in English 211 or English 225 with a grade of B or higher, or upon recommendation of the Department will have satisfied their English Communications requirement. Otherwise they must complete the requirement with one of the additional English courses listed above under “Communications.”

III. Humanities: 12-15 hours**. Courses must be taken in at least 3 of the six subdivisions.


Music: 113 (2), 114 (2), 161 (2), 331 (2), 332 (3); ensembles and applied music where background justifies.


After one lower division course has been taken, upper division courses, except 498 and 499, will apply.

c. Literature (English or foreign): English 221 (2), 222 (3), 228 (3), 251 (3), 252 (3), 310 (3); plus all literature courses as alternates; French, German, or Spanish literature courses.


e. American Civilization: 111 (3), 112 (3).

f. Humanities: 102 (4).

IV. Social Sciences: 9-12 hours**. Courses must be taken in at least 3 of the four subdivisions.


b. Political Science: 100 (3), 121 (3), 211 (3).

c. Psychology: 111 (3), 112 (2), 246 (3).

d. Sociology and Anthropology: 111 (3), 124 (3).

All other sociology courses may be counted after the student has completed Sociology 111. All other anthropology courses may be counted after the student has completed Anthropology 124.

**Selection from III and IV must total 24 hours with a minimum of 12 in group III and a minimum of 9 in group IV.

V. Physical Activities: 4 hours. At least 2 hours must be in one subdivision. (Must be taken in at least four separate semesters.)

a. Air Science: 113 (1), 114 (1), 223 (1), 224 (1).

b. Military Science: 113 (1), 114 (1), 223 (1), 224 (1).

c. Physical Education: (men) any of the 101-108 series, (1) each; only 1 hour in each varsity activity may be taken in the P.E.
8. The specific requirements for major and minor 
   beginning of a semester is excused from the physical activities 
   requirement.

7. The specific graduation requirements of the college 
   from which the student graduates.

8. The specific requirements for major and minor 
   fields of study.

9. A student whose college program has not been 
   interrupted by more than two consecutive calendar 
   years may graduate under the requirements in effect 
   at the University on the date he first entered any 
   College or University or the requirements of any 
   subsequent catalog; provided however, that in no 
   case will a student be allowed to graduate under 
   the requirements of a catalog in effect earlier than 
   two years preceding his matriculation at this Uni-
   versity. If his college program has been inter-
   rupted by more than two consecutive years a stu-
   dent will be subject to the catalog requirements in 
   effect when he re-enters, or if he elects, the re-
   quirements of a later catalog.

Honors

Graduation With Honors. Degrees are conferred 
with honors upon students who have shown excep-
tional scholarship. Students attaining a scholarship 
index of 3.90 receive the summa cum laude, those 
with an index of 3.55 receive the magna cum laude, 
and those with an index of 3.25 receive the cum laude 
award.

The Dean's List. To recognize meritorious aca-
demic achievement and to stimulate those who have 
the capacity for superior work, a dean's list is pub-
lished each semester, citing for recognition students 
in the upper ten per cent of their respective classes 
in each college, but no student with a credit point 
index of less than 3.25 is so cited.

ASSISTANTSHIPS AND STUDENT 
EMPLOYMENT

Graduate Assistantships. Graduate assistantship 
grants are made in several departments upon recom-
mendation of the department concerned and the Dean 
of the Graduate School. These assistantships carry a 
stipend of up to $2000. Application should be made 
to the Dean of the Graduate School.

Undergraduate Employment: The student may ap-
directly to the department in which he is seeking 
employment, or he may inquire at the Placement Office 
for aid in finding employment. In either case, all em-
ployment authorizations are subject to approval by the 
Committee on Scholarships and Student Aid.

Departmental Assistants. Academic assistantships 
are open to upper division students who have been 
recommended by their respective departments. Depart-
ments may select sophomores with out-
standing ability. These assistants grade papers, 
assist in laboratories, and assume the duties of clerical or technical assistants.

Clerical and Technical Assistants. Clerical assist-
ants must be recommended by the department con-
cerned. Technical assistants must have the Com-
mitee's permission, be recommended by the de-
partment head, have upper division standing, and 
have an over-all and major department grade of 
2.25.

Library Assistants. Library work is available to 
both men and women students. Interested students 
should apply to the Librarian or to the Student- 
Alumni Employment Office.

Custodial and Food Service Workers. Work is 
available for a limited number of students in these 
areas. Interested students should apply to the Office of Buildings and Grounds or to the Office 
of Director of Food Service.

FINANCIAL AIDS AND AWARDS

Under the provisions of the 1963 Kansas Senate 
Bill No. 152, a Board of Trustees is to be appointed 
by the governor before July 1, 1964. This Board of 
Trustees shall administer the endowment property 
formerly owned by the University of Wichita in sup-
port of the educational undertakings of Wichita State 
University. It will receive and administer gifts, be-
quests and trusts and will manage endowed property 
and funds as prescribed by the donors and approved 
by the State Board of Regents. Scholarship funds and 
awards now under the jurisdiction of the Board of 
Trustees and administered by them in cooperation 
with the State Board of Regents are listed below.

Awards

University Citizenship Award. The Wichita Branch 
of the American Association of University Women 
established in 1927 an annual gift of $25 to the girl 
of the junior class who has attained the highest effi-
ciency in university citizenship.

Cosmopolitan Achievement Award in Accounting. 
Established in 1953. An award of $50 is made an-
ually to an upper-division student with a declared 
major in accounting upon the recommendation of the 
Department of Accounting.

Instrument Society of America Student Award. 
Established in 1958, by the Wichita Section of the 
Instrument Society of America, this award of $50 and 
a certificate is made annually to an engineering or 
science student for achievement, demonstrated by the 
preparation and presentation of a technical paper on 
the subject of instrumentation or an allied field.

Thurlow Lieurance Memorial Fund. This award 
was established in 1964, is given to a senior in the 
Music Department of the College of Fine Arts in 
recognition of scholarship, service to the Universi-
ty and community, and outstanding achievement 
in the development of his talent.

Frank A. Neff Memorial Award. Established in 
1961, in memory of Dean Frank A. Neff, this award 
is made to the outstanding junior in the College of 
Business Administration and Industry.

Parnassus Service Award. Established in 1954 by 
the University. This award is given annually to one 
or more students working on the Parnassus staff upon 
recommendation of the Student Publications Commit-
tee. The total annual stipend paid by the award is 
$600.
Sunflower Service Award. Established in 1954 by the University. This award is given annually to one or more students working on the Sunflower staff upon recommendation of the Student Publications Committee. The total annual stipend paid by the award is $600.

Larry Ricks Geology Award Fund. Established in 1957, in memory of Larry Ricks. The interest from the investment is used as a cash gift or award made at the end of each academic year to an undergraduate student in Geology who shows great promise and excellence in scholarship.

William H. Swett Prize for Efficiency. William H. Swett, by the terms of his will, established a prize consisting of the income from $5,000. “The yearly income therefrom shall be given at the end of each school year to the graduating student who shall have attained the highest average in his studies and school work during his or her last year in college.” The fund became available in 1924.

SCHOLARSHIPS AND LOAN FUNDS

The following scholarships and loan funds are available to students of Wichita State University. All inquiries regarding student aid and all applications for undergraduate scholarships or loans must be addressed to the Committee on Scholarships and Student Aid. Applications for graduate fellowships must be made to the Dean of the Graduate School.

Undergraduate Scholarships and Financial Aid

The Regents' Recognition Scholarship is an honorary award given to a selected group of students with outstanding high school record. Certain special privileges are extended with this scholarship.

The Wichita Chapter of the National Association of Accountants Accounting Awards. These awards, established in 1962 by the Wichita Chapter of the National Association of Accountants, will be presented annually in the amount of $50 to two or more full-time male students who are juniors majoring in accounting. Criteria for selection consist of high academic achievement and qualities of leadership and character. Announcement of award winners will be made at the October meeting of the Association.

Administrative Management Society. Established in 1958 by the Wichita Chapter of the National Office Management Association. This is an annual scholarship in the amount of $350 for a junior in Business Administration majoring in Management. The bases for selection of the recipient will be scholastic achievement and financial need. Final date for application is February 1.

Advertising Club of Wichita Scholarship. Established in 1962 by the Advertising Club of Wichita, the scholarship is an annual award of $300 or $150 per semester to an advertising major or minor of junior or senior status. Criteria are need, scholastic record, and active participation record in outside advertising activities.

Aeronautical Local 733 International Association of Machinists Scholarship. Four scholarships were established in 1962 by Aeronautical Local 733 of the International Association of Machinists. They will be granted to members of Local 733 or their children in the amount of $200 for the year. The primary criterion for selection will be academic achievement. Each year one grant will be made to a freshman, a sophomore, a junior, and a senior. Final date for application is February 1.

Alpha Tau Sigma Delta Gamma Elizabeth Spicer and Eva C. Hangen Memorial Scholarship Fund. Established by the alumni of Alpha Tau Sigma Sorority. Interest on the fund is used to award a scholarship to a deserving member of the Delta Gamma Sorority.

The University of Wichita Alumni Scholarships. Established in 1950 by the University of Wichita Alumni Association, these scholarships are open to incoming freshmen and to undergraduate students. They are awarded on the bases of scholarship and need, and provide from $100 to $300 a year. Final date for application is February 1.

Olive Baker-Nease Scholarship. Established in 1954 by Stephen G. Nease as a memorial to his wife. The annual income from the estate is available for the scholarship stipend. Selection of scholarship winners is based upon need, academic achievement, and personality development. Final date for application is February 1.

Walter H. Beech Squadron Scholarship. Established in 1952 by Mrs. Olive Ann Beech and daughters. This scholarship carries a stipend of $600 ($300 per year for two years). Recipient must be a junior or senior and an active member of the Arnold Air Society. Final date for application is August 15.

The Walter H. Beech Scholarships in Aeronautical Engineering. This scholarship is awarded in two parts. The freshman scholarship will be granted to five freshmen for one year in the amount of $250 each on the basis of their high school records and entrance examinations. The upperclass scholarship is awarded at the end of the freshman year to one of the five freshman scholars who attained the best academic record. This award shall be a three year grant in the amount of $600 annually. A 3.00 grade average must be maintained to retain the scholarship. Final date for application is February 1.

Biological Science Scholarship. The Sedgwick County Medical Society has established a trust fund to provide scholarships for students preparing for careers in medicine or research relating to medicine. One scholarship in the amount of $250.00 will be granted each year to an incoming freshman. The grant may be renewed each year for three years if the recipient maintains a 3.0 grade average and remains in the biological science field. Final date for application is February 1.

The Boeing Airplane Company Scholarships. Established in 1956, a four-year scholarship carrying a stipend up to $2000 ($500 annually for four years) is awarded annually to an entering male freshman student. Recipient must pursue a degree in one of the following fields of study: engineering, mathematics, physics, or business administration. Selection will be based on applicant’s record in high school, his demonstrated leadership qualities, and financial need. Final date for application is February 1.

Luelia Bosworth Scholarship Fund. Established in honor of the class of 1902, income from this fund
shall be used for scholarship awards to students majoring in English. Classification as a senior and the highest overall grade average will be considered by the Department of English and College of Liberal Arts in recommending students for this Award. Applications are made through the Department of English to the Student Aid and Scholarship Committee prior to the close of each Spring semester.

Merrill Bosworth Music Scholarship. This scholarship, established in 1964, is administered by the School of Music, and is awarded to a music major whose chief performing medium is flute. Final date for application is February 1.

Wichita Chapter of Certified Public Accountants Scholarships. Established in 1957, by the Wichita Chapter of Certified Public Accountants, these scholarships are awarded annually to students who are full-time senior students in public accounting, have satisfied their intention of graduating at one of the three ensuing term-ends, have demonstrated an intellectual capacity of high order, as determined by their overall grade point index, and have demonstrated qualities of leadership and character. The awards may consist of one $300 scholarship, two $150 scholarships, or three $100 scholarships; but, the total must not exceed $300. These are awarded to students at the University who are judged to have the interest and capabilities to become Certified Public Accountants.

The Anna V. Christian Scholarship. Established in 1964 by R. V. Christian and family. Income from the fund shall be used for scholarships to entering freshmen majoring in chemistry. Final date for application is February 1.

City of Wichita Scholarships. The City Commissioners annually award a sum of money from the general wash and one-half mill levy for scholarship purposes. The University makes a number of grants covering part or all of the fees to students with outstanding academic records. The grants are for one year and are renewable to students maintaining a B or better average. The stipulations of the scholarship are: Applicant must have a good scholarship record from high school and recommendations. Some grants are based on scholarship alone, others on scholarship and need for financial aid. Final date for application is February 1.

Flora Colby Clough Scholarship. Established in 1918, the interest on $500 to be awarded to a young woman in the Fairmount College of Liberal Arts and Sciences, preferably one specializing in English, awarded upon nomination by the English Department.

Jenkin H. Davies Music Scholarship. Established in 1964, this scholarship is awarded annually by the School of Music to Music majors. Final date of application is February 1.

Delta Delta Delta Scholarships. These are annual scholarships of at least $100 per year given to a junior or senior girl at the time it is awarded. The basis upon which selection is made are scholastic achievement and financial need. Applications may be obtained in the Student Aid Office at the beginning of second semester.

Dr. John L. Evans Scholarship. Established in 1959, this award is available to those whom the authorities of the University may deem worthy, whose ability merits the award, and who need financial help to pursue the Pre-Medical course at the University. The final date for application is February 1.

Foreign Student Scholarship. Wichita State University accepts the recommendation of the Institute of International Education, 800 Second Avenue, New York 17, N.Y. Direct all queries to this address.

The Franklin Scholarship. The O. M. Franklin Serum Company provides one or more scholarships of $250.00 annually to entering freshmen majoring in chemistry. Final date for application is January 1.

Garvey Geology Scholarship Fund. Scholarships are awarded annually to two or three students majoring in Petroleum Geology in the amounts from $200 to $500, depending on the financial need. The basis for selection of the recipients of these awards is academic achievement, interest and promise in the field of petroleum, geology, and financial need. The final date for application is February 1.

The Harry Gore Scholarship Fund. Established in 1952, the fund provides that one-half of the income shall be used to make scholarship grants. Each scholarship grant is for $5000 ($1,250 annually for four years), and is made to an entering freshman student.

In determining the recipient of a Gore Scholarship, the Committee considers the student's scholastic record in high school, his ability and participation in general school activities, and his character, industry, and ambition. The final date for application is February 1.

Arthur J. Hoare Scholarship in Mathematics. Established in 1957, this fund provides that income shall be used for annual scholarships to students majoring in Mathematics. Applicants are recommended by the Mathematics Department to the Scholarship and Student Aid Committee for these scholarships. The awards shall not exceed full annual fees and costs of books. Applications are made through the Department of Mathematics prior to the close of each Spring semester.

The Independent Insurance Agents of Wichita, Inc. Established in 1956. Annual scholarship awarded to a junior or senior who is enrolled in the College of Business Administration or in the College of Liberal Arts with a major in economics. Carries a stipend of $375. The final date for application is February 1.

The John C. and Maude A. James Scholarship. Established in 1963 by Maude A. James in honor of her husband John C. James, the fund provides an income of $500.00 a year to be awarded to an outstanding senior student in the School of Engineering. Recommendations are made by a committee from the School of Engineering to the Scholarship and Student Aid Committee.

Kansas Association of Radio Broadcasters Scholarship. This scholarship in the amount of $250 a year is awarded annually to a student in Radio-TV. Final date of application is February 1.

Kappa Delta Pi, Wichita Alumni Chapter Scholarship. Established in 1957, by the Wichita Alumni Chapter of Kappa Delta Pi. Provides an annual stipend of $100 awarded to an active member of the Campus Chapter of Kappa Delta Pi based on academic achievement, promise as a teacher, and need. Final date for application is February 1.
The John Fitzgerald Kennedy Memorial Scholarship. This fund, established in 1964 as a memorial to President John F. Kennedy, was initiated by Temple Emanu-El of Wichita and joined in by the Wichita Catholic Diocese, the Wichita Council of Churches, other organizations, and numerous individuals. This scholarship is to be awarded to academically promising Negro students from Wichita high schools who do not qualify for other scholarships on the basis of superior academic record in high school and who could otherwise not afford a university education.

KFH Scholarship in Radio. A grant of $300 is awarded annually. The bases upon which the selection of the scholarship winner will be made are academic achievement, need, potentiality for a career in Radio, character, and leadership. The final date for application is February 1.

The Henry W. Lawrence Photographic Journalism Scholarship. Established in 1955. Awarded annually to a student with a major or minor in journalism and whose special interest is photography. Stipend $150.

Logopedics Scholarships. The Logopedics Scholarship Fund provides for a limited number of scholarships ranging from $50 to $200 a semester for students planning to major in Logopedics. These scholarships are provided by the Women's Advisory Council of the Institute of Logopedics, Lambda Tau Delta, Sigma Alpha, Chi Sigma, and other interested groups. Applicants are recommended by the Department of Logopedics to the University Scholarship Committee. Further information may be secured by writing to the Scholarship Committee, Institute of Logopedics, Wichita, Kansas. Final dates for application for the fall semester are February 1 and December 1 for the spring semester.

Leonora N. McGregor Scholarship Fund. Established in 1964. Income from this fund shall be used for scholarships for students of Wichita State University. Final date for application is February 1.

The Pearl J. Milburn Memorial Scholarship. Established in 1956, the fund provides a four-year scholarship carrying a stipend of $2,000 ($500 annually for four years) awarded to an entering freshman who has graduated from a Wichita public high school with B average or better, a record of high school activities, and need for financial assistance. Recipient must maintain a better than average scholastic record in the University and take two years of English and two years of American history during his college course. Usually awarded once every four years. Final date for application is February 1.

Mortar Board Alumni Scholarship. Established in 1945, a grant of $100 will be awarded to the sophomore girl having the highest scholastic average at the end of her freshman year.

Wichita State University Music Scholarships. Each year a limited number of scholarships are granted to music students planning to major in this field. Evidence of financial need, musical aptitude and over-all high school grade average of B or higher constitutes the basis for recommendation for Music Scholarship grants to the University Scholarship Committee. Interested students should contact the Dean of the School of Music, Wichita State University, Wichita, Kansas, for application blanks and detailed information.

Dr. Henry Ongard Scholarship. Established in 1958 by former students and friends of Dr. Ongard. The interest from the investment will be used as a stipend for one or more scholarships awarded annually to an upper-division student majoring in history. Bases for selection will be academic achievement, activities record, personal achievement, and financial need. Final date for application is February 1.

Payne Memorial Business Education Scholarship. Established in 1959 in honor of Mr. and Mrs. B. C. Payne. The scholarship is available to business education students. The bases for selection of the winner will be academic achievement and financial need. The stipend is $120. The final date for application is February 1.

The Pansy Pelzel Award of Kappa Kappa Iota Sorority. This grant of $50 is awarded to a senior woman who is planning to teach. The bases upon which selection of the scholarship winner will be made are academic achievement and financial need. The final date for application is November 1.

The Pilot Club of Wichita Scholarship. Established in 1958, this scholarship is available to an incoming freshman or a student enrolled in the University. An annual scholarship of $200, it is awarded to a girl who meets the following qualifications: academic achievement, need, activities record, and personality development. Final date for application is February 1.

Pi Mu Epsilon Mathematics Scholarship. Established in 1950 by the Wichita University (Kansas Gamma) chapter of Pi Mu Epsilon, honorary mathematics fraternity, consists of the interest on a scholarship fund. It is awarded to an upper-division student with a declared major in mathematics upon the recommendation of the Department of Mathematics. The award will be made upon the recipient's enrolling as a mathematics major in the following semester.

The Theodore Presser Foundation Music Scholarship. The Presser Foundation offers scholarships to one or more music majors. The awards are granted each spring by the Committee on Scholarships and Student Aid upon the recommendation of the Music Department faculty. The award is granted to a student in need of financial aid and preference is given to those who expect to become music teachers.

The Wichita Purchasing Agents Association Scholarship. Established in 1964, the scholarship of $400.00 will be awarded annually to a junior in the College of Business Administration with an emphasis in the Department of Administration or Economics. This scholarship is renewable for the student's senior year if he is eligible. Final date for application is February 1.

Ritchie Brothers Construction Company Scholarships. The Ritchie Brothers Construction Company will annually award two scholarships, one to a Negro Male and one to a son or daughter of an employee. Both carry stipends of up to $300 for the year. Bases for selection will be scholarship, need and character. Final date for application is February 1.

The Minisa Chapter (N. S. A. L.) Secretarial Schol-
arship. Established in 1958 by the Minisa Chapter of the N.S.A.I. An annual award of $200 is granted to a girl who has graduated from a high school in Sedgwick County and who has indicated an intention to enroll in the College of Business Administration with an emphasis in secretarial training. Selection of the winner will be made on character, need for financial assistance, personality, and scholastic record in high school. Final date for application is February 1.

The Sorosis Alumnae Award. The interest earned by the Sorosis Alumnae Fund shall be awarded annually to a member of Delta Delta Delta Sorority who has completed at least five semesters of work, with an over-all average of 3.0, and who has contributed in some outstanding manner to Wichita State University and the Delta Delta Delta Sorority.

F. C. Sauer Zoology Scholarship. Established in 1937 by Mary E. Sauer, the interest on $1000 to be awarded annually to a deserving student of high scholastic standing above the freshman year, preferably a zoology student, upon the recommendation of the Zoology Department.

Wichita Community Theatre Scholarship. Established in 1962, a $250 scholarship will be awarded annually to a high school graduate of the Wichita area. High scholastic standing and a desire to major in speech are requisites for application. Final date for application is February 1.

Dr. Walter A. Ver Wiebe Scholarship in Geology. Established in 1954 by former students and friends of Professor Walter A. Ver Wiebe. This scholarship bears the stipend of from $1500 to $2000 for four years and is awarded annually (for from $400 to $500 per year), and may be renewed provided the student is academically qualified. The applicant must be a graduate from high school (or the equivalent) with a high scholastic record, sound character, leadership qualities, and have a primary interest in geology. The applicant must have recommendations and be available for interview. Recommendations are submitted to the University Scholarship Committee. The final date for application is February 1.

The Molly Warren Wilcox Journalism Scholarship. Established in 1955, an award of $50 annually is granted to a major in journalism. The final date for application is February 1.

The Grace Wilkie Scholarship. The scholarship is the interest from an invested principal for which women students are eligible, however, preference is given to Grace Wilkie Hall residents.

Women's Aeronautical Association of Kansas Aeronautical Engineering Scholarship. This scholarship is to be awarded to a junior or senior student enrolled in aeronautical engineering and carries a stipend of $400 annually. A grade average of 2.50 or better is required. The final date for application is February 1.

The Women's Aeronautical Association of Kansas Flying Award. Established in 1958 by the Women's Aeronautical Association of Kansas. This scholarship carries a stipend of $600 ($150 at the beginning of each of four semesters). Award is made to a junior or senior student with a 2.5 academic record who has been accepted by the Air ROTC for advanced contract and who is recommended for strong leadership qual-

tics by the Commanding Officer of the Air ROTC unit of the University. Final date for application is August 15.

Women's Symphony Society Scholarship. Established by the Women's Symphony Society, the scholarship is open to music majors with a stipend of from $100 to $200 per year. Applications may be obtained through the Dean of the School of Music.

The Alice Campbell Wrigley Memorial Scholarship in Drama. Awarded to a student with high academic achievement, interest and promise in the field of theatre, and financial need. This scholarship is in the amount of $100 per year. The final date for application is February 1.

GRADUATE FELLOWSHIPS AND SCHOLARSHIPS

James H. Hibbard Memorial Scholarship. Established in 1952 by the Wichita Foundation of Medical Research. Provides awards to graduate students in Chemistry who are interested in the study of medicine or in research in some phase of medicine.

Kiwanis Scholarship in Public Administration. Established in 1964, a $1500 scholarship is being provided by the Downtown Kiwanis Club for graduate study leading to a Masters degree in Public Administration. Final date for application is February 1.

COMBINED STUDENT LOAN FUND

The special funds described below provide a Combined Student Loan Fund for students with satisfactory scholarship records. Total loans made to one student may not exceed $300 and satisfactory endorsers are required for all loans. All loans made to students bear interest at the rate of 4% and a $5 service charge is made on each loan. The time and manner of repayment is to be agreed upon by the student and the University at the time the loan is made. Application for these loans is made in the Student Aid Office.

Barclay Student Loan Fund. Established in 1931, $100 given by Mr. and Mrs. W. Houston Barclay.

Dr. L. A. Donnell Loan Fund. Established in 1959 in memory of Dr. L. A. Donnell. The fund will be incorporated into the Combined Student Loan Fund with money being loaned to deserving and needy students who have satisfactory scholarship records.

Edwards Loan Fund. Established in 1910 by R. E. Edwards of Kinsley, available for aiding deserving students to secure an education in Fairmount College, now incorporated in Wichita State University. The article of gift specifies that recipients shall be encouraged to work and to add to the amount such sums as they can, in order that others may receive similar aid in obtaining an education.

Goldsmith Student Loan Fund. Established in 1943 by a gift of $2,140 by Dr. and Mrs. W. M. Goldsmith, available to juniors and seniors who have completed one year of residence work at the University of Wichita. The rules governing the fund provide that at least fifty per cent of the fund shall be reserved for non-resident students.

Inter-Racial Good Will Fund. Established in 1926 for the benefit of Negro students enrolled in the Uni-
versity of Wichita, to be administered jointly by the University and a Commission of Inter-Racial Good Will.

Laura Piper Hoop Memorial Fund. Established in 1924 by a gift of $400 made by Major Oscar W. Hoop of the Fairmount class of 1920, in memory of his mother, Laura Piper Hoop. This is to be used as a perpetual loan fund to help worthy students and to be administered according to the discretion of the President of the University.

Fred C. Speh Student Loan Fund. Established in 1931 by Frederic C. Speh in memory of his son, Fred C. Speh, available to juniors and seniors and administered by the President of the University together with the committee. The maximum amount any one student may borrow is $200. Repayment time is governed by the student's financial circumstances and requires life insurance in amount equal to the sum borrowed.

Student Council Loan Fund. Established in 1932 by the Student Council, a sum of $150 as a loan fund for needy students, preferably needing financial aid to defray graduation expenses.

Dr. T. Walker Weaver Memorial Loan Fund. Established in 1962 by gifts from friends in the memory of Dr. T. Walker Weaver, former Board of Regents member. This fund is to be used for loans to worthy and needy students.

Women's Aeronautical Association Loan Fund. Established in 1940 by the Women's Aeronautical Association of Wichita, a sum of $100 to be loaned to worthy students in the aeronautical curricula.

Women's Bible Class, First Presbyterian Church, Loan Fund. Established to provide assistance to worthy students.

LOAN FUNDS FOR SPECIAL PURPOSES

Alumni Loan Fund. Wichita University Alumni Association Loan Fund, established in 1956 by the Alumni Association of the University of Wichita. All money given by the Alumni Association for this fund is put in the regular loan fund and administered by the Committee on Scholarships and Student Aid.

Boeing Emergency Loan Fund. Established by Boeing Airplane Company. This fund was made available to Wichita State University to make short duration emergency loans to students having financial need who are citizens of the United States, and are making satisfactory academic progress. Any major field of study leading to a bachelor's degree will qualify; some preference is given to engineering and science students.

Christian Conference Loan Fund. Established in 1923 by a friend of Fairmount College, a fund of $300 to enable students more easily to attend Y.M.C.A., Y.W.C.A., and other Christian conferences. Loans may not exceed $75 each and must be repaid within three months after the date of leaving college, interest at four per cent, payable annually.

C.U.W. Scholarship and Loan Fund. Established in 1952 by the Council of University Women and consists of $50 to be used only for loans to women and is available to new students on the campus.

Delta Epsilon Loan Fund. Established in 1956 by the Epsilon Chapter of Delta Epsilon, Science Fraternity to be used for making loans to majors in the following departments: chemistry, engineering, logopedics, geology, mathematics, physics, psychology, and zoology.

Kansas Engineering Society Loan Fund. Established in 1956 by the Kansas Engineering Society, a fund of $400 to be loaned to worthy students enrolled in accredited engineering curricula. Loans bear service charge but bear interest only after recipient has left the University.

Garvey Loan Fund. Established in 1958 by James S. Garvey, a fund to be loaned to worthy students who meet character, citizenship, and need qualifications.

Grand Army of the Republic Living Memorial Loan Fund for Logopedics Students. Established in 1952, by the Daughters of the Union Veterans of the Civil War, provides a fund of $2500 to be used for loans to students who are direct descendants of a Union Veteran of the Civil War and majoring in Logopedics. Maximum loan is to be $300 per student to be repaid after the date of leaving college in payments acceptable to both the student and the University. Interest at 1% payable annually.

Inter Fraternity Council. Established in 1966 by the Inter Fraternity Council. The fund is used for National Defense Student Loan matching funds.

John Liggett Loan Fund. Established in 1964 by John Liggett. This fund is used for National Defense Student Loan matching funds.

Pete Lightner Memorial Loan Fund. Established in 1962, in memory of Pete Lightner. This fund is to be used for loans to worthy and needy music students or athletes.

Eugene McFarland Loan Fund. Established in 1956 in memory of Dr. McFarland, to be used for loans to students majoring in art.

Reno B. Myers Memorial Loan Fund for Music Students. Established in 1962 by gifts from friends in the memory of Reno B. Myers. This fund is to be used for loans to worthy and needy students in music.

National Defense Student Loan Fund. This fund established under Title II of Public Law 85-864 is to assure that no student of ability will be denied an opportunity for higher education because of financial need.

Two academic criteria must be met by the student to establish eligibility for these loans:

1. He must be a full-time student on either the undergraduate or graduate level, or be accepted for admission as a full-time student.

2. He must be in good standing and capable of maintaining such standing.

The maximum amount available to an individual borrower in one fiscal year is $1000 and the total amount during the duration of the program is limited to $5000.

Interest on these loans does not commence until one year from the date the borrower ceases to be a full-
time student at an institution of higher education. Simple interest of 3% per annum on the unpaid balance is charged.

The principal amount plus interest thereon shall be repaid in ten equal installments beginning one year from the time the borrower ceases to be a full-time student. Full or partial payment at any time prior to repayment schedule shall be permitted.

Any borrower who serves as a full-time teacher in a public secondary or elementary school shall be eligible for cancellation of 10% of the amount of the loan plus interest thereon, which is unpaid on the first day of such service, for each academic year of such service. A maximum of 50% may be cancelled in this manner. In the event of the borrower's total and permanent disability or death, the unpaid indebtedness shall be cancelled.


Minnie Ferguson Owens Loan Fund. Established in 1940 by Dorothy Owens Meyers, a fund of $200 for payment of fees, available to senior students of voice.

Charles E. Parr Loan Fund. Established in 1959 through the estate of Charles E. Parr, a fund to be loaned to worthy students desiring a higher education.

Rollins Memorial Fund. Established in 1927 in honor of Walter Huntington Rollins, third President of Fairmount College, by his classmates of Dartmouth College, Class of 1894, and certain Wichita friends, the sum of $1000 in perpetual trust, the income from which is to form an accumulative revolving fund to be loaned from year to year to a worthy student or students in the Fairmount College of Liberal Arts and Sciences.

Kansas Sales Executive Club Loan Fund. Established in 1957, $1000 available for loans to juniors and seniors with a major in marketing and who have an interest in selling.

Senior Class of 1961 Loan Fund. Established by the Class of 1961. The funds provided will be loaned to worthy and deserving graduating seniors. Repayment may be made after graduation.

George W. Shepherd Memorial Loan Fund. Established in 1962, the funds are to be loaned with no interest charge to students seeking careers as police officers.

United Student Aid Funds. Wichita State University is a participant in a program of loans that may be made through a student's home town bank. These loans may be made to students who have completed their freshman year. A student may borrow up to $1000 per year — or a combined total of $3000 for a undergraduate and/or graduate education. Interest on these loans is limited to 6% simple interest. Repayments begin after finishing undergraduate or graduate education. Payments may be spread over 36 monthly installments. Monthly repayments begin within 30 days if withdrawal is made before graduation. The University must approve the loan and advise the bank. Instructions and applications may be secured from the University Office of Student Aid or the student's home town bank.

George D. Wilner Loan Fund. Established in honor of George D. Wilner, Professor Emeritus of Speech and Dramatic Art. This fund is used for National Defense Student Loan matching funds.

Wichita State University Men's Faculty Club. Established in 1965 by the Men's Faculty Club of this University. The fund is used for National Defense Student Loan matching funds.

FOUNDATIONS FOR RELIGIOUS EDUCATION

The Ransom Foundation was established by Katherine S. Ransom as a memorial for her husband by a gift of $75,000. It is administered as a trust fund under the name of "The Ransom Fund for Religious Education."

The Butler Foundation was established by Emily Butler. It is a trust fund of $10,000 to be used for the purpose of assisting in the financing of the "Department of Religious Education of the University of Wichita."

At the specific request of the trustees of Fairmount College a small portion of the income of the Joint Ransom-Butler Foundation is now set aside annually for use in defraying the cost of outstanding lectures in religion, science, and literature.

The Louisa J. Byington Foundation was established in 1930 and consists of the sum of $1,000 to be used in the Department of Religious Education.

STUDENT PERSONNEL SERVICES

Student services of universities today concern themselves with the non-curricular aspects of a student's development. At Wichita State University, such services are the responsibility of the Office of Student Personnel Services. All requests for information not provided in this catalog should be addressed to the Director of Student Personnel Services.

Orientation

Pre-Freshman Period. To acquaint the new student with college life, organization, and regulations; to learn as much as possible about the new student through counseling and testing; to acquaint students with each other; and to encourage development of community spirit through a planned social program.

Continuing Orientation. To help new students make the most effective use of their university experience; see UNIVERSITY COLLEGE section on Orientation and Advising for description of the continuing program.

Counseling

Professional Counseling is available on a voluntary basis for students seeking such services. Areas specifically served include:

1. Emotional and adjustment difficulties
2. Vocational and professional planning
3. Marital counseling
4. Educational counseling as related to 1, 2, and 3 above

Advisement

Each student is assigned to a faculty member whose responsibility it is to advise him in academic matters. In the event that either the student or the faculty member feels that the student is in need of more professional services, a referral to the Counseling Center may be made.

Foreign Students

The University welcomes students from abroad. There are, however, no scholarships or grants available to the newly-entering foreign student, so it is imperative that he have sufficient funds to cover his expenses while in this country.

Admission Requirements

1. Graduation from an accredited high school or college.
3. Notarized statement of financial responsibility in an amount of $1,600.00 or more to cover at least one year’s expenses.
4. Enrollment in at least 12 hours at the undergraduate level and in at least 9 hours if qualified at the graduate level.

For further information, write to the Foreign Student Adviser.

Placement Office — Student Employment

The University Placement Office has three functions:
1. To help students find part-time jobs to earn part of their expenses. While the University does not guarantee jobs, students who want to work can find employment, either on or off campus. Inquiries are invited.
2. To help seniors find career opportunities, by campus interviews with national, state, and local firms, and by individual listings. Counseling and other aids are available.
3. To perform the same functions as above for alumni of the University.

The Placement Office actively promotes opportunities for students in the above areas. (Teacher Placement is handled separately.) Students are encouraged, however, to avoid excessive work schedules. Academic progress may suffer, which in turn may result in an extra semester or summer session expense. Students are urged to assess their academic ability, class schedule, and financial need CAREFULLY before deciding to work more than 20 hours per week. STUDENTS ON SCHOLASTIC PROBATION ARE NOT ALLOWED TO HOLD A CAMPUS JOB.

Teacher Placement Bureau

Assistance is given to students and alumni desiring teaching positions. The service is available only to students who have completed 15 semester hours at the Wichita State University and who have an over-all C average. The registration fee of $2.00 is to be paid to the University cashier. Application forms may be obtained from the Teacher Placement Bureau.

Veterans’ Affairs and Selective Service

There are certain problems of special concern to veterans and to those students who must maintain continuing relations with local draft boards. To assist these students with problems, the University provides the services of a Veterans’ Adviser.

Reading Improvement Laboratory

The University provides special aid to students who wish to improve skills in reading and study habits. A non-credit course aimed primarily at reading improvement is available. In connection with this service a battery of tests is administered, and through individual conferences an attempt is made to identify particular weaknesses and to suggest ways to overcome them. A further description of the reading course can be found in the listings of the Psychology Department and University College.

Writing Laboratory

With the cooperation of the English Department the University offers a non-credit tutorial program designed to help any student who has problems in writing. This service is offered in the Writing Laboratory and designated as English 99.

A student may enter the Writing Laboratory either voluntarily or upon the recommendation of an instructor. At the Laboratory he works individually with members of the English faculty, learning to criticize, proofread, and correct his own compositions. No appointment is necessary for the initial interview.

Housing

Recognizing the influence which on-campus living facilities have on the development of social competence and on the entire educational experience, the University maintains residence halls for women and men. Housing contracts cover room and board at $700.00 per year. This is payable in advance at $350.00 per semester or in four installments of $90.00 each per semester. A deposit of $50.00 should accompany the application for space in a residence hall. This should be done by June 1. Housing rental does not cover occupancy during Christmas recess.

When a housing shortage exists, students living off-campus at the University’s request may, upon application, secure a separate meal contract as long as space is available.

All single, undergraduate students under 21 not living with parent or guardian who are enrolled in nine or more hours for credit must live in University-owned or University-approved housing, the final decision being the prerogative of the University. NO CONTRACTS FOR NON-UNIVERSITY HOUSING SHOULD BE MADE BEFORE SECURING APPROVAL IN THE OFFICE OF STUDENT PER-
SONNEL SERVICES, Morrison Hall. The University reserves the right to make policy adjustments where the situation demands and to change the residence of any student or to deny or cancel residence accommodations of any student, in cases where such action is deemed desirable.

Admission to the University does not mean automatic room reservation. For complete information write to the Director of Housing, Morrison Hall, Wichita State University, Wichita, Kansas.

**Student Government**

Wichita State University believes that one of its primary tasks is educating for the responsibilities of citizenship in our democratic society. With this in mind, it places an ever increasing emphasis on the role that the Student Government Association plays on the campus.

The S.G.A., under its present constitution, is divided into three organs of student government. The Cabinet, Congress, and Student-Faculty Court carry out the executive, legislative, and judicial functions respectively.

In addition to sponsoring such student activities as Freshman Orientation, Homecoming, Hippodrome, and May Day, the Congress, which is completely student elected, charters and registers all other student organizations subordinate to it. It recommends to the President of the University the names of students to be appointed to University committees and advises the University Administration on the student views about policy.

**Student Health and Hospitalization**

Wichita State University maintains a Student Health Service. The Health Service staff consists of Lew Purinton, M.D., Director; Bruce Meeker, III, M.D.; William Nixon, M.D.; Austin Adams, M.D., Psychiatrist; and Wanda Maltby, R.N., Nurse-Counselor. The staff are members of the American College Health Association, an organization which attempts to standardize practices regarding activities in American colleges and universities.

All new and transfer students, or students registering anew after an interruption of their program, working toward a degree and enrolled for nine (9) or more credit hours, are required to submit to the Student Health Service a certificate signed by a licensed physician (M.D.), stating that the student is free from tuberculosis and/or other contagious diseases. The appropriate form will be mailed to all new applicants for admission to the University, or may be obtained from the Student Health Service.

The nurse may be seen at the Student Health Service Office for first aid, illness, or counseling regarding personal health problems. Services of the staff physicians are available by appointment during the scheduled clinic hours as posted in the Student Health Service Office. Polio, tetanus, and flu immunizations are offered to those desiring them. Summaries of medical health records are prepared for students upon request. A terminal physical examination is optional for senior students.

The Wichita State University student body has chosen to participate in the Blue Cross-Blue Shield Hospital Surgical Medical plan. Opportunities to participate in the program are offered at the beginning of each regular semester. Information is available at the Student Health Service Office.

**The Campus Activities Center**

The Campus Activities Center is designed to provide recreational areas, lounging and reading rooms and opportunities for student groups to meet and carry on their programs. Dining facilities are available to the students, faculty, and their friends. The book-store stocks texts and supplies which meet the students’ day-to-day campus needs. The program of activities is planned by the Program Board, a representative body of students, faculty, and alumni.

The Campus Activities Center is the community center of the university, for all the members of the University family—students, faculty, administration, alumni and guests. It is not just a building; it is also an organization and a program.

As a part of the educational program of the university, it serves as a center for training students in social responsibility and for leadership in our democracy.

In all its processes it encourages self-directed activity, giving maximum opportunity for self-realization and for growth in individual social competency and group effectiveness. Its goal is the development of persons as well as intellects. The Center serves as a unifying force in the life of the university, cultivating enduring regard for and loyalty to the university.

**ORGANIZATIONS**

Student organizations may be granted the privilege of (1) the use of names in which the name of the University is embodied or suggested, and (2) the use of the University rooms or grounds for meetings and of bulletin boards for announcements, only if they have filed their registration forms furnishing the Office of Student Personnel Services with lists of officers and other executive members, statements of purposes, and copies of constitution and by-laws.

**Social Organizations**

Five national sororities and four national fraternities are maintained by the students of the University: Alpha Chi Omega, Alpha Phi, Delta Delta Delta, Gamma, and Gamma Phi Beta by the women; and Beta Theta Pi, Delta Upsilon, Phi Delta Theta, and Sigma Phi Epsilon by the men.

**Fraternity and Sorority Awards.** Each year there is awarded to the fraternity having the highest scholastic average a silver loving cup; and to the sorority having the highest average a silver tea service. The fraternity and sorority so honored are in possession of the awards for one year at the end of which time the new awards are made and the trophies go to the new winners.

**Independent Students Association.** A chapter of the National Independent Students Association exists on the campus to promote friendship among the student body, as well as to further the educational and social interests of its members.
Honorary Organizations

ALPHA KAPPA DELTA — Sociology
DELTA SIGMA RHO-TAU KAPPA ALPHA — Forensics
ENGINEERING HONOR SOCIETY
GAMMA IOTA CHI — Journalism (women)
KAPPA DELTA PI — Education
KAPPA KAPPA PSI — Bandmen
KAPPA MU PSI — Radio-TV
KAPPA PI — Art
MEN'S HONOR FIVE — Service, scholarship, leadership (men)
MORTAR BOARD — Service, scholarship, leadership (women)
MU PHI EPSILON — Music (women)
NATIONAL COLLEGIATE PLAYERS (Pi Epsilon Delta)
ORDER OF ARTUS — Economics
PHI ALPHA THETA — History
PHI DELTA KAPPA — Education
PHI MU ALPHA SINFONIA — Music
PI MU EPSILON — Mathematics
PI SIGMA ALPHA — Political Science
PSI CHI — Psychology
SHOCKER SPURS — Sophomore Women
SIGMA ALPHA ETA — Speech and Hearing
SIGMA DELTA PI — Spanish
SIGMA GAMMA TAU — Aeronautical Engineering
SIGMA PI SIGMA — Physics
SIGMA NU EPSILON — Journalism (men)
TAU BETA PI — Engineering
TAU BETA SIGMA — Band (women)
ZETA PHI ETA — Speech Arts

Other Organizations and Activities

Alpha Kappa Psi (Business and Commerce)
Alpha Phi Omega (Service)
American Institute of Aeronautics and Astronautics
American Society of Mechanical Engineers
American Society of Tool and Manufacturing Engineers
Anchorettes
Angel Flight
Army Blues
Arnold Air Society (Air Cadets)
Association of International Students in Economics and Commerce
Association of Women Students (A.W.S.)
Baptist Student Union

Canterbury Club
Christian Science Club
Debate Society
Dialectica (Philosophy)
Engineering Council
Flying Club
Geology Club
Industrial Arts Club
Institute of Electronics and Electrical Engineers
Inter-Fraternity Council
International Students Club
Inter-Varsity Christian Fellowship
Kappa Alpha Psi
Kappa Phi
Newman Club
Orchesis (Modern Dance)
Parnassus
Pershing Rides
Pep Council
Scabbard and Blade
Spanish Club
Student Government Association
Student Music Educators National Conference
Student NAACP
Student National Education Association
United Christian Fellowship
Women's Panheltesic Council
Women's Physical Education Club
Women's Recreational Association (W.R.A.)
Young Democrats
Young Republicans
Young Women's Christian Association (Y.W.C.A.)
All freshmen admitted to Wichita State University are enrolled in University College. Primarily designed to aid the freshman through his first year of higher education, University College provides for the transition from high school into any of the baccalaureate degree colleges, usually at the end of the freshman year. In order to properly acquaint the student with university life, the freshman year is characterized by emphasis upon the use of test results, an intensive faculty advising and orientation program, enrollment in general requirement courses, and the aid of several auxiliary services. Removal of high school deficiencies and fulfilling prerequisites of the baccalaureate colleges should also be accomplished during the first year in University College.

In addition to the Freshman Division, University College also administers: the Division of Continuing Education, and certain technical and two-year programs.

REQUIREMENTS FOR ADMISSION as a freshman in University College:

1. Make application to the Admissions Office, Wichita State University, listing any college or university since graduation from high school.
2. Take the American College Test and HAVE RESULTS SENT TO WICHITA STATE UNIVERSITY. Registration blanks and information are available through high school counselors and the Testing Office, Wichita State University. (See EXCEPTION for transfer students below.)
3. Take the Cooperative Reading Test given by Wichita State University. Contact our Testing Office for arrangements. (See EXCEPTION for transfer students below.)
4. Present a certificate signed by a licensed physician (M.D.) stating that you are free from tuberculosis and/or other contagious diseases.
5. Submit autobiography for use by your faculty adviser.

TRANSFER STUDENTS

1. EXCEPTION: Any student transferring 15 or more acceptable hours from another college or university is not required to take the two entrance tests listed above.
2. All transfer students admitted on probation are enrolled in University College.
3. Transfer students with 24 or more acceptable hours, and not on probation, are eligible to apply for admission to a baccalaureate degree college.

HIGH SCHOOL PREPARATION

Adequate high school preparation is a prerequisite for admission to introductory college courses and degree-granting colleges. Hence, it is necessary that high school courses be chosen which will provide the proper background for college work. The following requirements are considered a minimum for successful college work and are required if a degree in Liberal Arts and Sciences is desired.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Units Required</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>3 units</td>
<td>4 recommended</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>2 units</td>
<td>1 language</td>
</tr>
<tr>
<td>History &amp; Social Science</td>
<td>2 units</td>
<td></td>
</tr>
<tr>
<td>Mathematics*</td>
<td>2 units, algebra and geometry</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>2 units, exclusive of general science</td>
<td></td>
</tr>
</tbody>
</table>

*In addition, the Colleges of Business Administration and Liberal Arts and Sciences require an additional half unit of algebra; and the College of Engineering requires Mathematics through college algebra, trigonometry, and analytic geometry, or their equivalent.

ORIENTATION AND ADVISING PROGRAM

A selected group of experienced faculty members, familiar with the problems of freshmen, meet with them individually and in small groups through the Orientation and Advising Program. Each adviser is provided with an evaluation of his advisee's high school work, his abilities as indicated by the entrance examinations, and autobiographical information. Through frequent appointments with his adviser during the year, the freshman is assisted in choosing courses best suited to his individual abilities and educational goals; through attendance at Orientation meetings with the rest of the freshman class, he learns to understand University regulations and to assume the responsibilities of a University student.

SCHEDULE

Minimum requirements for the Bachelor's degree are 124 semester hours and 248 credit or grade points. To graduate in four years, a student should take 15 to 16 hours each semester. In most cases, a typical semester load of 15 hours is equivalent to 15 class meetings per week, except that laboratory hours are usually double the regular class hours.

If the student is undecided as to his area of emphasis, he may well enroll in any of the courses selected from the 45 hours of required courses listed under the "University Requirements for Graduation," found on p. 20, or other courses approved by the adviser and Dean. If, however, the student is firm in his convictions as to a major, or field of professional interest, the student's adviser will suggest courses from both areas, i.e., those from the "University Requirements" mentioned above, as well as introductory
courses in areas of major or professional goals. A sample first semester schedule is shown below; second semester sequences in most areas follow numerically upon the first semester. For example, in most cases, courses numbered 101, 111, 141, 193, etc. below are followed in the second semester by courses numbered respectively 102, 112, 142, 194, etc.

**SAMPLE FIRST SEMESTER SCHEDULE**

1. The student must enroll in two or more large auditorium classes. In any given semester there is wide choice, for example:

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psych. 111, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>*Sci. 101, Physical Science</td>
<td>5</td>
</tr>
<tr>
<td>Hist. 101, History of Civilization</td>
<td>4</td>
</tr>
<tr>
<td>Hum. 102, Man and the Arts</td>
<td>4</td>
</tr>
<tr>
<td>Am. Civ. 111, American Civilization</td>
<td>3</td>
</tr>
<tr>
<td>Phil. 121, General Philosophy</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Additional and/or alternative general courses: (selected upon the advice of adviser).

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Activities: Physical Education, R.O.T.C., or Marching Band</td>
<td>1</td>
</tr>
<tr>
<td>Psych. 60, Remedial Reading</td>
<td>0</td>
</tr>
<tr>
<td>Engl. 80, Writing Improvement Techniques</td>
<td>0</td>
</tr>
</tbody>
</table>

3. Recommended Major and Professional Courses:

**LIBERAL ARTS AND SCIENCES**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory science</td>
<td>5</td>
</tr>
<tr>
<td>Mathematics (for which eligible)</td>
<td>3-5</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>4</td>
</tr>
<tr>
<td>Other liberal arts, English 111, or Speech 111</td>
<td>3-2</td>
</tr>
</tbody>
</table>

**BUSINESS ADMINISTRATION**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acctg. 193, Introductory</td>
<td>3</td>
</tr>
<tr>
<td>Math. 121, Discrete Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

**TEACHER EDUCATION**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psych. 111, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Engl. 111, College English</td>
<td>3</td>
</tr>
</tbody>
</table>

**PHYSICAL EDUCATION**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phys. Ed. 115, Pers. &amp; Community Health</td>
<td>3</td>
</tr>
<tr>
<td>Phys. Ed. 118, Fundamentals, Major Sports</td>
<td>3</td>
</tr>
</tbody>
</table>

**INDUSTRIAL EDUCATION**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ind. Ed. 111, Introduction</td>
<td>2</td>
</tr>
<tr>
<td>Ind. Ed. 120, General Drafting</td>
<td>3</td>
</tr>
</tbody>
</table>

**ENGINEERING**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. (for which eligible)</td>
<td>3-5</td>
</tr>
<tr>
<td>Engr. Dwg. 109, Graphics</td>
<td>1</td>
</tr>
</tbody>
</table>

**FINE ARTS — ART**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 141, Basic Art I or</td>
<td>5</td>
</tr>
<tr>
<td>Art 142, Basic Art II</td>
<td>5</td>
</tr>
</tbody>
</table>

**FINE ARTS — MUSIC**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mus. 111, Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>Mus. 113, Music Literature</td>
<td>2</td>
</tr>
<tr>
<td>Mus. 127, Music Theory (prerequisite, Piano)</td>
<td>3</td>
</tr>
<tr>
<td>Applied Music</td>
<td>2</td>
</tr>
</tbody>
</table>

**STUDENT PERSONNEL SERVICES**

While this office serves all students, it is especially important to freshmen in these areas:

- Housing
- Scholarships and Loans
- Part-time Employment
- Student Government and Associations
- Social Organizations
- Health, Hospitalization, and Insurance
- Personal and Vocational Counseling
- Bookstore
- Food Service
- Recreation Areas
- Foreign Student Advising
- University Forum

(Detailed information precedes the section on University College in this catalog.)

**PREPARATION FOR DEGREE-GRANTING COLLEGES:** All credits accumulated in University College apply toward a degree, if acceptable to the degree-granting college of the student's choice.

**General:** After a freshman has 24 hours of credit and the grade average required by the degree college of his choice, he is eligible for that college.

**Specific:** In addition, some of the colleges have specific requirements. A freshman must consider these carefully with his adviser when selecting courses during his first year. (Descriptions of degree colleges follow the University College section in this catalog.)

Students failing to complete requirements for acceptance in the baccalaureate college by the time they have accumulated 72 credit hours will be withdrawn from the University. Only the Dean of University College is involved in such action.

**Procedure:**

1. During the semester in which he will complete 24 hours, the freshman is to consult his adviser concerning his eligibility for a degree college.
2. After consulting his adviser, and during preregistration for the next semester, he is responsible for reporting first to the University College Dean's Office to request transfer to his chosen degree college, then to that college’s Dean’s Office for interview.
3. Transfer will be made IF THE STUDENT IS ELIGIBLE after his grades for the semester are recorded and his overall index has been calculated; and if he is accepted by the degree college of his choice.
4. NO TRANSFER WILL BE MADE UNLESS THE STUDENT FOLLOWS THE ABOVE INSTRUCTIONS.

**DIVISION OF CONTINUING EDUCATION**

The Division of Continuing Education, an administrative unit of University College, was established to meet the educational needs of those citizens in our community who are not regularly enrolled students in another college of the University, through academic work of a cultural, vocational or semi-professional nature.
The functions of this program, which is directed to the adults of our community are:

a. To provide continuing education in a variety of fields for those who wish to study for their own personal enrichment.

b. To cooperate with business and industry in providing for groups of employees specialized courses, with or without credit.

c. To sponsor lectures, conferences and institutes for the benefit of students and the general public.

d. To afford, through cooperation with degree-granting colleges, courses during evening hours leading to a degree in one of the colleges of the University.

e. To maintain administrative facilities for students who have matriculated for special programs or for an unspecified degree, and who are not enrolled in another college of the University.

Transfer of Credit to a Degree-Granting College

Students who accumulate credits in the Division of Continuing Education and who subsequently wish to work toward a degree in one of the other colleges must transfer to the appropriate college and meet all of its degree requirements.

Residence and Extension Credit

All credit courses offered within the City of Wichita carry residence credit; credit courses offered at locations outside the city may carry extension credit. No correspondence work is offered by Wichita State University.

Standards and Requirements

Students who do not meet the requirements for admission to credit courses may be admitted to such courses as audit students. Such persons are enrolled as special students, pay the same fees and receive the same lecture and classroom privileges as credit students. They are not required to take announced examinations.

Bulletin

Prior to each semester a bulletin is prepared by the Division of Continuing Education announcing registration dates, courses offered, schedule of classes, and other pertinent information. The bulletin is available upon request.

SPECIAL PROGRAMS OF STUDY

University College provides courses which are basic to certain technical and professional fields. In some of these programs a two-year degree, the Associate of Applied Science, is offered.

Police Science

Courses in police science are designed to meet the growing demand for trained personnel in the field of law enforcement. The program has three specific objectives: (1) effective law enforcement, (2) specialized techniques in combating crime, and (3) general basic training for police executives. While Wichita police officers will continue to have priority for enrollment in this program, other University students may be permitted to enroll provided: (1) they obtain clearance from the Wichita Police Department; and (2) they are in good academic standing. Students desirous of earning a four-year degree in the College of Liberal Arts and Sciences, with a 21 semester-hour minor in Police Science, may transfer from University College upon completion of the two-year degree.

The prescribed curriculum for the degree, Associate of Applied Science (Police Science), follows:

A. Core Curriculum:

1. English 111 .................................. 3 hours
   Speech 111 .................................. 2 hours
   2. Science .................................. 5 hours
   3. Humanities ................................ 6-8 hours
   4. Psychology 111 ................................ 3 hours
   Sociology 111 ................................ 3 hours

B. Remainder of the program:

1. Police Science ................................ 24 hours
2. Political Science ................................ 6 hours
   100 or 121, 441

3. One course from each of the following groups:
   a. Psychology 246 (3), 275 (3), 444 (3)
   b. Sociology 334 (3), 339 (2), 340 (2), 341 (2)

4. Electives to complete a total of 64 hours for the degree.

Nursing

Courses are available for students who wish to enter the field of nursing. While a broad education is included, it is recommended that emphasis be placed upon courses in science, psychology, and sociology. The University provides additional programs, as described below:

1. In cooperation with Wesley School of Nursing, student nurses pursue a prescribed course of study of 25 semester hours including the following:

   First Semester Hours
   Chem. 103, General Chemistry .................. 5
   Biol. 223, Human Biology .................. 5

   Second Semester
   Biol. 120, Introduction to Microbiology ........ 3
   Biol. 130, Nutrition .................. 3
   Psych. 111, General Psychology .................. 3

   Summer Term
   Soc. 111, Introduction to Sociology ........ 3
   Eng. 111, College English .................. 3

   Such college credit, augmented by one year of concurrent study at Wesley School of Nursing and followed by two additional academic years of clinical study at the school of nursing will qualify a student to apply for a diploma from the school of nursing, and will provide a foundation for completion of the work necessary to comply with the degree requirements at the University, by which the Bachelor of Arts Degree may be conferred.
2. In cooperation with the University of Kansas, two years of prescribed courses can be taken at Wichita State University toward the degree of Bachelor of Science in Nursing granted by the University of Kansas. The Dean's Office will provide information relative to specific requirements.

UNIVERSITY COLLEGE COURSES

Communications

111 College English. (3). Planning, writing, and criticizing compositions. Drills in standard English, literary models, classroom discussions, and conferences.

Humanities

102 Man and the Arts. (4). Aesthetic expression involving an analysis of appreciation in three major areas of creativity: literature, music, and the visual arts. Students will be expected to attend frequent concerts and operas, art exhibitions, and films, most of which will be scheduled at optional times.

299 International Seminar. (4). An interdisciplinary travel seminar: a study of European culture which includes observations of art and architecture in principal European cities, lectures and discussions of European political, social and economic problems given by foreign nationals; and conducted visits to various historic places of interest. Seminar under direction of a member of the faculty.

Science

Neither of these courses satisfies the laboratory science requirement for graduation:

101 Physical Science. (5). 5R; D. Man in the physical world; offering some basic concepts in the physical sciences.

102 Biological Science. (5). 5R; D. Man in the living world. An introduction to the basic concepts of the biological sciences, with emphasis upon man himself.

Remedial Services

Psych. 60 Reading Improvement Techniques (0). 2L. Designed for those students who seek to improve reading skills. Reading and study habits are diagnosed and practice toward improvement is provided. Prerequisite: approval of instructor.

Engl. 79 English for Foreign Students (0). 2R; 1C. Designed to determine the students' facility with the English language. All foreign students are required to enroll and participate until approval of the instructor is obtained.

Engl. 80 Writing Improvement Techniques (0) 3R.

Engl. 99 Writing Laboratory (0). A special aid to any student in the University who has problems in writing. By appointment.

Math 50 Elementary Algebra. (0). 3R. For students without high school credit in algebra. May be used in meeting department prerequisites in place of one unit of high school algebra.

Math 60 Plane Geometry. (0). 3R. For students without high school credit in plane geometry. May be used in meeting department prerequisites in place of one unit of high school geometry. Prerequisite: one unit of high school algebra or concurrent enrollment in Math 50.

Math 70 Intermediate Algebra. (0). 2R. A continuation of the study of elementary algebra. May be used in meeting department prerequisites in place of the third half unit of high school algebra. Prerequisite: one unit of high school algebra.

Police Science

The courses in police science are given by officers of the Wichita Police Department, the Legal Department of the City of Wichita, and the University faculty.

MAJOR. A major is available only to those who enrolled in the program prior to September 1962. Beginning September 1962, only a minor will count toward a four-year degree.

MINOR. The minor consists of 21 hours in Police Science.

Lower Division Courses

106 Traffic Control. (3). Teaches the three phases of traffic control: engineering, education, and enforcement. Problems of traffic direction and regulation with special emphasis on safety.

113 Police Fundamentals. (3). Police rules and regulations, tactics, courtroom testimony, and report writing.

123 Contact and Interview Techniques. (3). A presentation of useful and practical techniques for the police officer to employ in daily contacts with all people to enable him to gain the most truthful information pertaining to the successful completion of his job. Starts with the new officer casually talking to citizens he meets in his daily routine and continues through all phases of interrogation up to and including the detective questioning suspects and the use of the Polygraph (lie detector).

221 Criminal Law. (3). Analysis and interpretation of criminal law, procedure and evidence, offenses and the elements of offenses; the laws of arrest, search, and seizure; power of law enforcement officers; development, admissibility, and presentation of evidence; testimony, demeanor, and procedure.

243 Special Investigation. (3). Techniques of investigation; identifying, collecting, and preserving evidence; sources of investigative information.

244 Introduction to Scientific Crime Detection. (3). Scientific aids utilized by law enforcement agencies in the investigation of crimes. This includes their application in the field as well as the laboratory and their presentation in court.

245 Investigative Photography. (3). Photography as applied in law enforcement, both in the laboratory and the field. This includes the use of specialized equipment and diagramming the crime scene.
Regardless of the area of his ultimate specialization, man is, before all else, a member of civilization. Ours is a complex civilization, one which requires an ever-increasing degree of sophisticated understanding. To study the liberal arts and sciences means, in essence, to study the range and scope of man’s knowledge about himself and about his universe.

Even though one ultimately specializes in advanced professional fields of study, he is always a member of his society. To understand it—its heritage, its traditions, its environment, its ways of doing things, or its problems—requires a liberal education which is conducive to creative citizenship. The ability to interrelate the world’s many phenomena, to cherish beauty, to communicate interestingly and intelligently—these and related abilities are enhanced by liberal education in the arts and sciences. In a very real sense, a liberal education is a “liberating” experience, for through its processes and methods, one discovers the key for opening the doors to exciting new discoveries throughout his life—he is freed from the limits of his past and invigorated by the potential of his future. Indeed, the professions themselves are increasingly aware of the value of basing specialized competence on general intellectual competence.

While vocational preparation as such is not the prime concern of the Fairmount College of Liberal Arts and Sciences, students frequently are interested in preparing themselves as undergraduates for further study, at the graduate level, in the programs and departments of the College. Many aim at a teaching or research career in one of the several subject matter fields, or perhaps at a position in industry or business. Others are interested in using undergraduate liberal arts and sciences as a springboard for specialized preparation in such fields as medicine or medical technology, nursing, pharmacy, law, dentistry, theology, public service, social work, and many others.

And, of course, the liberal arts and sciences are recommended for the student who does not particularly aim at a specific career objective, but who seeks merely the thrill of discovery and of new ideas.

REQUIREMENTS

Admission

Beginning September 1, 1964, candidates for admission to Fairmount College (including those who entered the University as freshmen in September 1963) must meet the following requirements:

1. Successful completion of 24 semester hours.
2. A minimum grade point index of 1.700.*
3. Completion of English 111, 211, or 225 with a grade of C or better.

In addition, as of September 1, 1964, the following requirements are in effect:

1. Humanities:
The student must have completed satisfactorily any three semester hours from Group III of the University core curriculum (see page 20), or the equivalent.

2. Mathematics:
The student must have fulfilled the prerequisites for Mathematics 141. (This means that the student must have completed one and one-half units of algebra plus one unit of geometry in high school, or must have completed Mathematics 50, 60, and 70 or equivalent.)

3. Modern Language (or Latin):
The student must have completed satisfactorily one high school unit or one college semester of modern language (French, German, Italian, or Spanish) or of Latin.

4. Natural Science:
The student must have completed satisfactorily one high school unit or one college semester of laboratory science, exclusive of elementary general science.

5. Social Science:
The student must have completed satisfactorily any three semester hours from Group IV of the University core curriculum (see page 20), or the equivalent.

Beginning September 1, 1967, additional admission requirements will be in effect:

1. Modern Languages (or Latin):
The student must have completed satisfactorily two high school units or two college semesters of one modern language (French, German, Italian, or Spanish) or Latin. Beginning with this date, students enrolled in Fairmount College will receive graduation credit for freshman-level courses in modern language (or Latin) only if such courses are in a second language field.

2. Natural Science:
The student must have completed satisfactorily one of the following:
   a. Two high school units of science at least one of which must have been a laboratory science (exclusive of elementary general science).
   b. One high school unit of laboratory science and one college semester of laboratory science.
   c. Two college semesters of laboratory science.

   Degree Requirements

The Bachelor of Arts, Bachelor of Science and Bachelor of Science in Medical Technology degrees are conferred in this college. Each degree requires a
minimum of 124 credit hours and a grade point index of 2.00. The general requirements for graduation are listed on page 20. Through August of 1966, candidates for a degree from this college must complete the following:

1. two semesters of one foreign language unless they present two units of one foreign language from a secondary school. A student presenting one unit may fill the requirement by taking one additional semester of the same language in the University; and
2. three hours of mathematics, unless the student presents two units of algebra or a combination of one unit of algebra and one unit of geometry from a secondary school.

**Major and Minor Offerings**

The College of Liberal Arts and Sciences offers majors in the following fields: American Civilization, Art, Biology, Chemistry, Classical Languages, Economics, English, French, Geology, German, History, Journalism, Logopedics, Mathematics, Music, Philosophy and Religion, Physics, Political Science, Psychology, Sociology, Spanish and Speech.

Candidates for the Bachelor of Arts degree shall elect: (1) a major in one field of study of not less than 24 hours or more than 41 hours, or a combined major consisting of 24 hours from one field of study and 12 hours from an allied field of study,* or a major from a professional field, including art, economics, logopedics and music; (2) at least 12 hours of upper division work in the major field; (3) work in such additional fields of study outside the major field of study as the faculty of the major field of study may deem appropriate. Any hours in one field of study above 41 must be counted as in excess of the 124 hours required for graduation.

*If a combined major is elected the courses selected must be approved by each department head concerned. See also special statements regarding majors under Mathematics, French, German, and Spanish.

Students who major in art, logopedics and music must establish two minors in the College of Liberal Arts and Sciences. Minors are offered in all fields of study listed above and in anthropology, geography, and police science. Minors acceptable from outside Fairmount College are engineering and accounting, and such education courses as are necessary for certification.

Candidates for the Bachelor of Science degree should consult with their major advisor relative to requirements. The Bachelor of Science degree is available in the following fields of study: biology, chemistry, geology, mathematics and physics and normally requires 43 hours for the major. However, any hours in one field of study above 43 must be counted as in excess of the 124 hours required for graduation.

**Field Major**

This major is designed to provide a field of study wherein three or more fields of study are correlated to secure a broader appreciation of the cultural and dynamic factors of human conduct. The selection of the courses is made with the counsel of the adviser and the approval of the dean of the college. Such a major cuts across departmental lines and is determined by the field of specific interest but must be an acceptable combination. The allocation of the 36 hours required for the major is 18 in the major department and not less than 9 in each of two allied departments.

**Other Degree Requirements**

In addition to the foregoing requirements for a degree from Fairmount College, the following requirements will be in effect for those students expecting to graduate in the spring of 1967, or thereafter:

1. **English:**
   - The student must complete, with a grade of C or better, at least three semester hours of American or English literature. (Note: Such a course may be chosen in such a way as to satisfy core curriculum requirements simultaneously.)

2. **History — Political Science:**
   - The student must demonstrate a proficiency in the field of American political system and institutions by (a) passing an examination offered once each semester, at an announced time, by the Departments of History and Political Science, or (b) passing one of the following courses: History 131 or 132, or Political Science 100, 211, or 221. (Note: These courses also satisfy core curriculum requirements.)

3. **Mathematics:**
   - The student must complete satisfactorily either Mathematics 141, 142, or 121-122, or the equivalents. (Note: Students planning to major in Mathematics, the Natural Sciences, or Philosophy should take Mathematics 141, a five-hour course. Other students, e.g. those majoring in the humanities or the social sciences, may take 121-122, a six-hour sequence.)

4. **Modern Language:**
   - In fulfilling his degree requirements in modern language, the student may choose either "a" or "b", below:
     a. He may complete satisfactorily 13 semester hours of a single language, representing any combination of high school and college credits. (Note: One year of high school work will be considered as the equivalent of one college semester.)
     b. He may complete satisfactorily the 111-112 sequence, or the equivalent, in a second language, if he also can present at least two high school units or two college semesters of another language.

5. **Natural Science:**
   - The student must complete satisfactorily nine semester hours (beyond the College entrance requirement), four of which must be in a laboratory science. Except for students majoring in the natural sciences, four semester hours must be taken in each of the physical and biological science divisions (as listed in the University core curriculum, page 20).
Transfer of Credit Within the University

Hours completed in colleges other than Fairmount College or University College shall be transferred for credit under the following general rules:

1. Credit shall transfer when, in the judgment of the academic official charged with reviewing the transcript of a student, the work offered constitutes progress toward his new degree goal in Fairmount College. Not more than 21 hours shall be transferred, except in cases involving state certification requirements.

2. In the courses listed below the following limitations shall be in effect:

   Only one credit hour in one semester and not more than 8 hours maximum credit shall transfer for chorus, band, or other ensembles.
   Applied music shall transfer not to exceed 8 hours.
   Applied art shall transfer not to exceed 8 hours.

SPECIAL PROGRAMS OF STUDY

The Fairmount College of Liberal Arts and Sciences provides courses which are basic for certain professional fields and for subsequent professional studies. The liberal arts studies are recognized as vital in establishing the background resources for such areas. Although there are many similarities in the broad pattern of pre-professional education, there are marked differences in specific requirements. The advisers in the various pre-professional fields and closely related departments will provide specific information relative to courses and requirements.

Medical Technology

The Fairmount College of Liberal Arts and Sciences offers in cooperation with both St. Francis Hospital and Wesley Medical Center in Wichita the Bachelor of Science degree in Medical Technology. The first three years of this program are taken at the Wichita State University and the last year at either Wesley or St. Francis Hospital. The curriculum for this degree is described below.

FRESHMAN YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol. 101, Biology</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 111, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Phys. Ed. 101</td>
<td>1</td>
</tr>
<tr>
<td>Math 141, College Algebra and Plane Trigonometry</td>
<td>5</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol. 102, Biology</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 112, General and Inorganic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Social Science, lower division</td>
<td>3</td>
</tr>
<tr>
<td>Phys. Ed. 102</td>
<td>1</td>
</tr>
<tr>
<td>English 111, College English</td>
<td>3</td>
</tr>
</tbody>
</table>

SOPHOMORE YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng. 211, Advanced Writing</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 231, Organic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Modern Foreign Language</td>
<td>4</td>
</tr>
<tr>
<td>Humanities, lower division</td>
<td>3</td>
</tr>
<tr>
<td>Phys. Ed. 103</td>
<td>1</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 232, Organic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Modern Foreign Language</td>
<td>4</td>
</tr>
<tr>
<td>Social Science, lower division</td>
<td>6</td>
</tr>
<tr>
<td>Phys. Ed. 104</td>
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</table>

JUNIOR YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol. 223, Human Biology</td>
<td>5</td>
</tr>
<tr>
<td>Biol. 301, Bacteriology</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 323, Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Humanities, upper division</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>6</td>
</tr>
<tr>
<td>Courses must be selected from the following:</td>
<td>302, 312, 324, 325, 343, 401</td>
</tr>
<tr>
<td>Speech 111, Extemporaneous Speaking</td>
<td>2</td>
</tr>
<tr>
<td>Humanities, upper division</td>
<td>6</td>
</tr>
<tr>
<td>Humanities or Social Science, upper division</td>
<td>3</td>
</tr>
</tbody>
</table>

SENIOR YEAR

(School of Medical Technology, St. Francis Hospital, or at Wesley Medical Center, Wichita, Kansas)

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Med. Tech. 401, Bacteriology</td>
<td>5</td>
</tr>
<tr>
<td>Med. Tech. 402, Biochemistry</td>
<td>6</td>
</tr>
<tr>
<td>Med. Tech. 403, Parasitology</td>
<td>3</td>
</tr>
<tr>
<td>Med. Tech. 410, Mycology</td>
<td>1</td>
</tr>
<tr>
<td>Med. Tech. 412, Serology</td>
<td>1</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Med. Tech. 420, Urinalysis</td>
<td>2</td>
</tr>
<tr>
<td>Med. Tech. 422, Hematology</td>
<td>4</td>
</tr>
<tr>
<td>Med. Tech. 432, Blood Banking</td>
<td>3</td>
</tr>
<tr>
<td>Med. Tech. 430, Histological Technique</td>
<td>4</td>
</tr>
<tr>
<td>Med. Tech. 440, Basal Metabolism and Electrocardiography</td>
<td>1</td>
</tr>
</tbody>
</table>

Pre-Law

In a statement of policy by the Association of American Law Schools, emphasis is placed upon undergraduate studies which provide "comprehension and expression in words; critical understanding of the human institutions and values with which the law deals; and creative power in thinking," to be achieved through disciplined study in the fields of the student's choice.

Degree requirements for a Bachelor of Arts degree will provide a general education and concentration in a field of major study. The pre-law adviser will provide information relative to requirements for entrance to law school.

FAIRMOUNT COLLEGE OF LIBERAL ARTS AND SCIENCES

37
Pre-Medical, Pre-Dental, Pre-Veterinary, Pre-Pharmacy, Pre-Optometry

Schools of medicine emphasize for admission a broad education as well as prescribed studies in the sciences. Preparation for the study of medicine should include, therefore, courses of study which develop disciplined thinking, intelligent appreciation of values, and sympathetic understanding of man and society. Since vital aspects of the study of medicine are associated with scientific knowledge and techniques, courses in biology, chemistry, physics, and allied fields are required. Students may choose to major in these fields but other majors may be selected in preparation for the study of medicine. The prospective physician should also possess those qualities of character which make for effective citizenship and professional competence. The adviser for pre-medical studies will provide information relative to the Medical College Admission Test recommended by the Association of American Medical Colleges and, upon request, a detailed outline of the various curricula for admission to medical school. Students are urged to consult with him at the earliest possible time in regard to the opportunities and requirements in this professional field.

While the four-year degree program is definitely preferable, it is possible in some medical schools to gain admission on the basis of a three-year program of studies. Students of Wichita State University who have taken 94 hours of preparation, the last 30 of which must have been taken at Wichita State University, have complied with the prescribed fields of study requirements, have 188 credit points with no more than 20 hours of D grade work, have passed the first year of medical or dental school (for 30 hours), and are eligible for admission to the second year may be granted the degree of Bachelor of Arts by Wichita State University if application be made by the candidate for such a degree. Students with a major in biology are required to complete within the 94 hours a minimum of 21 hours or three courses above the freshman level.

Schools of Dentistry require prescribed preparation in the sciences as well as general education. Although the entrance requirements are generally of the same character, the student should give careful attention to the pattern in the school of his choice. Emphasis upon the sciences, generally with a major in biology, is recommended. The adviser for pre-dental studies will provide a specific program of course work for either the three-year or four-year program.

The preparation for the study of veterinary medicine generally includes the essential pattern of basic education and emphasis upon science with special reference to biology. The adviser for pre-veterinary medicine studies will provide a specific program of course work.

Schedules may be arranged to meet entrance requirements of the various schools of optometry, osteopathy, pharmacy, mortuary science, and related professional fields.

Pre-Theological

Students interested in pursuing graduate theological work should arrange their programs of preparation in consultation with the head of the department of Religious Education. Specific requirements set forth by the individual seminaries can thus be satisfied.

Public Service

There is a growing demand for college graduates in the field of public service. The foreign service of the United States offers an attractive field to a limited number of young men and women who desire a career abroad. The federal government and an increasing number of cities and states are using the principles of the merit system for their employees. Related fields, open to properly trained college graduates are found in municipal research bureaus and legislative reference bureaus. Preparation for such service is not confined to any one department. Students interested in public service as a career should consult with their advisers or the heads of their departments as to the courses which will best prepare them. Students interested in public administration should also consult the civil service bulletins.

Social Work

Courses are provided for pre-professional training in various areas of social work. The social work courses are designed for three types of students: (1) all students as preparation for intelligent and responsible community citizenship, (2) the student who upon graduation may accept a position not now requiring professional graduate training, and (3) the student who plans to go on to a graduate school of social work. The offerings in social work are listed on page 60.

Teaching

Students in the College of Liberal Arts and Sciences may qualify for secondary teaching certificates in Kansas and in several other states. Those who plan to qualify for the standard secondary teaching certificate must complete the program as outlined in items I and II on page 71.

LIBERAL ARTS AND SCIENCES CURRICULUM

Special Interdepartmental Courses
Honors 300. Honors Colloquium (1).

Honors 301. Special Studies (1-5). A broad approach to the special problems of one of the major divisions of knowledge, i.e. humanities (301A), social science (301B), science (301C). Designed for non-majors in the subject.

Humanities 299. International Seminar (4). An interdisciplinary travel seminar: a study of European culture which includes observations of art and architecture in principal European cities, lectures and discussions of European political, social and economic problems given by foreign nationals; and conducted visits to various historic places of interest. Seminar under direction of a member of the faculty.

AMERICAN CIVILIZATION

The program in American Civilization provides a broad cultural background in American studies, and provides, proportionately, for a specialization in a field of the student's particular interest.
MAJOR: 36 hours minimum, consisting of Amer. Civ. 111, 112, 6 hours from Amer. Civ. 211, 212, 311, and 312, and Amer. Civ. 498 and 499 (required); 18 hours to be chosen from the following groups:

- English: 251, 252, 440
- History: 131, 132, 444
- Political Science: 211, 221, 315, 316
- Anthropology: 305, 328
- Philosophy: 356
- Economics: 207
- Speech: 452

MINOR: A minor in the College of Liberal Arts and Sciences consists of 15 hours, including American Civilization 111 and 112 and at least 3 upper division hours.

**Lower Division Courses**

111 & 112. Survey of American Civilization (3-3). First semester: Introduction to American Civilization: Colonial beginnings to 1861. Second semester: American Civilization from 1861 to the present. A study of the factors shaping the growing nation, its changing culture, its problems, as the civilization peculiar to this nation becomes more apparent.

211 The Romantic Revolution. (3). The impact of the Romantic Revolution on the nation's civilization as a liberating force in the period of its greatest change.

212 The Growth of Nationalism. (3). American Civilization during the period of its awakening to its place as a nation and the problems encountered.

**Upper Division Courses**

301 Introduction to American Studies. (2-4). An examination of the American Civilization from an interdisciplinary perspective. The intent is to show how the humanities and social sciences can be linked in the study of America. Prerequisite: Consent of the Interdisciplinary Committee on American Civilization.

311 The Colonial Period. (3). Those ideas and ideals, originally fostered by the English colonists, which were to become the foundation of the new democracy.

312 The Twentieth Century. (3). The many contributing factors shaping the Twentieth Century American civilization.

321 The Midlands and the High Plains. (3). The background, the factors in the settlement of this vast area, and the results of this settlement.

322 The American Southwest. (3). The background of the settlement of the American Southwest, the impact of the mingling of three different cultures, and the evolving of a fourth culture.

498 Introduction to Research. (3). Bibliography, methodology, and the philosophy of research. Prerequisite: department consent.

499 Seminar in American Civilization (3). Seminar and individual conferences organized around a problem or problems presented by a representative figure, theme, or period (i.e., the Industrial Revolution, Reconstruction, Westward Migration, Mark Twain and the Mississippi. Prerequisite: department consent.

**BIOLOGY**

MAJOR. A major in biology leading to a Bachelor of Arts degree requires 30 hours of biology, and must include Biology 101 and 102. In addition, 15 hours of chemistry are highly recommended.

A major in biology leading to a Bachelor of Science degree requires 40 hours of biology, and must include Biology 101 and 102; 30 hours of mathematics or natural science, 15 of which must be in chemistry, are also required.

MINOR. A minor in biology requires 15 hours, including Biology 101 and 102.

Several of the courses offered in the Biology Department are service courses, and are so designated. Service courses cannot be taken for credit toward a biology major or minor.

**Lower Division Courses**

101 Biology. (5). 3R; 4L. Fundamentals of biology common to plants and animals.

102 Biology. (5). 3R; 4L. A study of the diversity and the relatedness of plants and animals. Prerequisite: Biol. 101.

120 Introduction to Microbiology. (3). 2R; 2L. Service course for nurses only. Fundamentals of microbiology with emphasis on microorganisms important in sanitation and disease.

130 Nutrition. (3). 3R. A study of human nutrition: composition and classification of foods; vitamins and their function; food and public health laws; disaster and space nutrition; detailed application of nutrition knowledge to various conditions (pregnancy, child, adult, aged). (For students of nursing only.)

223 Human Biology. (5). 3R; 4L. Service course for nurses and physical education majors. An introduction to the structure and functions of the human body. Credit not applicable toward the core requirement for laboratory science.


228 Vertebrate Zoology. (4). 2R; 6L. A comprehensive study of the vertebrates with emphasis on life histories, phylogenies, and evolution. Field work will be an integral part of the laboratory. Prerequisite: Biol. 102.

**Upper Division Courses**

301 Bacteriology. (5). 3R; 6L. An introduction to growth, development and metabolism of bacteria and related forms. Prerequisite: Biol. 102; and Chem. 291 or concurrent enrollment.

302 Pathogenic Microbiology. (3). 2R; 3L. An introduction to the important pathogenic microorganisms and their relations to health and disease in man. Prerequisite: Biology 301.

311 Microscopic Technique. (3). 9L. Preparation of materials for the study of minute anatomy. Prerequisite: Biol. 225, 226, 227, 329, or 330.
312 Parasitology. (3). 1R; 6L. The parasites of man and other vertebrate hosts. Prerequisite: Biol. 220 or 227.

320 Comparative Animal Physiology. (4). 3R; 3L. A survey of physiological phenomena in the major groups of animals with attention to physiology as a unifying discipline in zoology. Prerequisite: Biol. 102 and Chem. 231.

322 Plant Physiology. (4). 2R; 6L. The functional dynamics of plant metabolism and growth, including water relations, nutrition, translocation, photosynthesis, respiration, and various aspects of development. Prerequisite: Biol. 102 and Chem. 231.

324 Microbial Physiology. (3). 3R. The physiology and metabolism of microorganisms. Prerequisite: Biol. 301 and Chem. 231, or consent of instructor.

325 Microbial Physiology Laboratory. (2). 6L. An introduction to the basic techniques involved in the study of microbial physiology. Prerequisite: Biology 301.

329 Nonvascular Plants. (4). 2R; 6L. An introduction to the structure, reproduction, and evolution of the algae, fungi, and bryophytes. Special emphasis on cytology, physiology. Prerequisite: Biol. 102.

330 Vascular Plants. (4). 2R; 6L. An introduction to the structure, reproduction and evolution of the major groups of living and extinct vascular plants. Special emphasis on the development of pollen, embryo, seed, and fruit of seed plants. Prerequisite: Biol. 102.

343 Mycology. (4). 2R; 4L. The structure, development and reproduction of fungi with emphasis on the cytology and physiology of forms of scientific and economic importance. Prerequisite: Biol. 102.

381 Entomology. (4). 2R; 6L. The biology and economic significance of selected insect types. Prerequisite: Biol. 102.

401 Genetics. (4). 3R; 3L. The mechanisms of heredity and variation in plants and animals with a critical review of the concept of the gene. Prerequisite: Biol. 102.


411 General Ecology. (4). 2R; 6L. Principles of plant and animal ecology with field work as an integral part of the laboratory. Prerequisite: 20 hours of biology.

421 Serology. (3). 3R. The chemical basis of immunology and serology with emphasis on the application of serological procedures in various areas of biological investigation. Prerequisite: Biol. 102 and Chem. 231.

422 Serological Techniques. (2). 6L. Laboratory practice in qualitative and quantitative aspects of antibody production and antigen-antibody reactions. Prerequisite or co-requisite: Biology 421.

423 Cytology. (3). 2R; 6L. The structure, chemistry, development, and function of the cell with particular reference to chromosomes and their bearing on genetics. Prerequisite: Biol. 102.

430 Histology. (4). 2R; 6L. Microscopic anatomy of vertebrates with emphasis on the mammal. Prerequisite: Biol. 225.

445 Physiology of Plant Development. (4). 2R; 6L. A study of physical and chemical factors influencing growth, differentiation and reproduction of plants. Prerequisite: Biol. 222.

460 Microbial Genetics. (4). 3R; 3L. The relationships between development, metabolism, and genetics in microorganisms. Prerequisite: Biol. 301 and 401 or department consent.

482 Topics in Botany. (2). Prerequisite: consent of instructor. May be repeated once for credit.

483 Topics in Zoology. (2). Prerequisite: consent of instructor. May be repeated once for credit.

484 Topics in Microbiology. (2). Prerequisite: consent of instructor. May be repeated once for credit.

490 History and Literature of Biology. (1). 2R. The historical development of some of the main ideas of biology and the use of biological literature. Prerequisite: 20 hrs. Biology.


500 Biology Seminar. (1). Reviews of current research in biology.

503 Physiological Zoology. (4). 2R; 4L. The development, ecology, and distribution of animals in relation to physiological adaptation. Prerequisite: Biol. 320.

505 Physiological Genetics. (2). 2R. Studies of the physico-chemical nature of genetic material and the mechanisms of genetic regulation of metabolism.

506 Comparative Endocrinology. (3). 3R. A phylogenetic survey of hormonal mechanisms in the animal kingdom. Prerequisite, Biology 320.

507 Microbial Metabolism. (3). 3R. Studies of the degradative and biosynthetic metabolic pathways of representative bacteria, yeasts and higher fungi. Prerequisite, Biology 301.

561 & 562 Research. (1 to 5: 1 to 5). Research opportunities are offered in the following areas of biology: genetics, physiology (plant, animal, microbial), parasitology, ecology (plant and animal), morphology (plant and animal), biochemistry, bacteriology, plant anatomy, and systematics. A maximum of 8 hours may be taken for credit.

576 Thesis. (2).

CHEMISTRY

MAJOR. A major with a Bachelor of Arts degree requires Chemistry 232, 234, 446, and the necessary prerequisites which include Mathematics 244 (or equivalent) and one year of college physics.

A major with a Bachelor of Science degree includes, in addition to the B.A. requirements, Chemistry 411, and at least five additional hours from Chemistry 406 through 459, chosen so as to provide at least one credit hour of advanced laboratory. A reading knowledge, or two semesters, of German or French are required. Additional physics and mathematics beyond the minimum requirements are strongly recommended. This curriculum meets the standards of the American Chemical Society Committee on the Professional Training of Chemists.

The student who is working toward the Bachelor of Science degree should consult closely with the department in planning his curriculum.
The premedical student who majors in chemistry should be advised by a member of the Chemistry Department faculty.

MINOR. The chemistry minor consists of at least 14 hours, and must include 4 or 5 hours from Chemistry 231, 302, 304, and 325.

**Lower Division Courses**

103 General Chemistry. (5). 3R; 4L. A brief survey of inorganic, organic, and biological chemistry for the student who plans to take only one course in chemistry.

111 General Chemistry. (5). 4R; 2L. The general laws of chemistry and the non-metals and their compounds. Prerequisite: 1.5 units of high school algebra or 1 unit and Math. 70.

112 General and Inorganic Chemistry. (5). 3R; 4L. The chemistry of metals, electrochemistry, ionic equilibria, and introduction to qualitative analysis and organic chemistry. Prerequisite: Chem. 111 with a grade of C or better.

123-124 General and Analytical Chemistry. (5-5). 3R; 6L-3R; 6L. General chemistry and introductory quantitative analysis. Prerequisite: 1.5 units of high school algebra, 1 unit of high school chemistry, and consent of department.

201 Glass Blowing. (1). 2L. Limited enrollment open to students upon recommendation of the chemistry department.

231-222 Organic Chemistry. (5-5). 3R; 6L-3R; 6L. For majors and potential students. Preparation and identification of typical organic compounds of the aliphatic and aromatic series. Prerequisite: Chem. 112 (or equivalent) with a grade of C or better.

**Upper Division Courses**

302 Chemistry of Materials. (2). Fundamental general chemistry applied to chemical technology. Prerequisite: Chem. 112 (or equivalent) with a grade of C or better.

304 Elementary Physical Chemistry. (3). For students preparing for geology, biology, and medicine. Not for chemistry majors. Prerequisite: Chem. 112 (or equivalent) with a grade of C or better.

323 Introductory Analytical Chemistry. (4). 2R; 6L. The fundamental principles of gravimetric and volumetric analysis. Prerequisite: Chem. 112 with a grade of C or better.

324 Analytical Chemistry. (4). 2R; 6L. Analysis of complex mixtures and introduction to instrumental methods and organic analysis. Prerequisite: Chem. 231 and 323 (or equivalent).***

331-332 Organic Chemistry. (5-5) 3R; 6L-3R; 6L. The subjects of Chemistry 231-232 presented in a way designed to meet the needs of transfer students and others who have had analytical chemistry in the sophomore year. Prerequisite: Chemistry 112 (or equivalent) with C or better and consent of department. Note: Chem. 331 and 332 are equivalent to Chem. 231 and 232 as prerequisites for subsequent courses. Credit will not be granted for both Chem. 231 and 331 or Chem. 232 and 332.

345-346 Physical Chemistry. (4-4). 3R; 3L-3R; 3L. Introductory physical chemistry for students having a background in physics and calculus. Prerequisite: Chem. 231, Math. 244 (or equivalent), and one year of college physics.

401 Chemical Literature. (1). The use of the chemical literature. Prerequisite: 20 hours of chemistry and consent of instructor.

406 Biochemistry. (4). 3R; 3L. An introduction to protein, lipid, and carbohydrate chemistry. Prerequisite: Biol. 102, Chem. 232 and 323 (or equivalent) or consent of instructor.***

411 Inorganic Chemistry. (3). The periodic table; theoretical and descriptive inorganic chemistry. Prerequisite: 25 hours of chemistry.***

412 Advanced Inorganic Chemistry. (2). A continuation of Chemistry 411. Prerequisite: Chem. 411.***

413 Inorganic Chemistry Laboratory. (1 to 2). 3L or 6L. Experimental methods of inorganic chemistry. Prerequisite: Chem. 411 or concurrent enrollment.***

423 Chemical Spectroscopy. (3). 2R; 3L. Spectroscopy, spectrophotometry, and flame photometry. Prerequisite: 25 hours of chemistry and consent of instructor.***

424 Advanced Analytical Chemistry. (3). 2R; 3L. Electrometric methods, chromatography, and radioactive tracer techniques. Prerequisite: 25 hours of chemistry and consent of instructor.***

425 Electronics. (2). 1R; 4L. Provides a working knowledge of electronic devices and circuits for the student or research worker who has little or no background in electronics. Prerequisite: consent of instructor.

433 Organic Preparations. (1 to 2). 3L or 6L. The more difficult organic syntheses. Prerequisite: Chem. 232 and consent of instructor.

434 Qualitative Organic Analysis. (3). 1R; 6L. Identification of organic compounds. Prerequisite: Chem. 232.***

447 Chemical Thermodynamics. (3). Prerequisite: Chem. 346 (or equivalent).

459 Independent Study and Research. (1 to 2). Prerequisite: Chem. 346 (or equivalent) and consent of department.

**Graduate Courses**

500 Chemical Seminar. (1). Review of current periodicals. Reports on student and faculty research. Prerequisite: 20 hours of chemistry. May be repeated for credit.

511 Advanced Inorganic Chemistry. (2). Non-aqueous solvent systems; chemistry of the less familiar elements. Prerequisite: consent of instructor.

519 Special Topics in Inorganic Chemistry. (1 to 3). Prerequisite: consent of instructor.

521 Advanced Analytical Chemistry. (1). Analytical chemistry of the less familiar elements. Prerequisite: consent of instructor.

529 Special Topics in Analytical Chemistry. (1 to 3). Prerequisite: consent of instructor.

531 Advanced Organic Chemistry. (2). Recent advances in organic chemistry. Prerequisite: consent of instructor.

532 Heterocyclic Chemistry. (2). Prerequisite: consent of instructor.

534 Qualitative Organic Analysis. (2). Prerequisite: consent of instructor.

535 Physical Organic Chemistry. (2). Prerequisite: consent of instructor.
539* Special Topics in Organic Chemistry. (1 to 3). Prerequisite: consent of instructor.

541 Advanced Physical Chemistry. (2). Molecular structure, solutions, and kinetic theory of gases. Prerequisite: consent of instructor.

542 Chemical Kinetics. (2). Prerequisite: consent of instructor.

549* Special Topics in Physical Chemistry. (1 to 3). Prerequisite: consent of instructor.

551* Research in Inorganic Chemistry. (1 to 5).

552* Research in Analytical Chemistry. (1 to 5).

553* Research in Organic Chemistry. (1 to 5).

554* Research in Physical Chemistry. (1 to 5).

*May be repeated for credit.

**After September 1, 1965, additional prerequisite of Chem. 346.

***After September 1, 1965, additional prerequisite of Chem. 345, corequisite of Chem. 346.

ENGLISH LANGUAGE AND LITERATURE

MAJOR. The major requirement is 33 hours. Required courses are Engl. 221, 222, 225, 251, and 446. In addition, English majors will select courses from the following groups as indicated below:

I. Period courses.
   A. One of the following: 370, 371, 373, 374, 375, 376.
   B. One of the following: 252, 341, 342.

II. Major author courses. One of the following: 301, 430, 431, 433, 434.

III. Studies in Literary Types. One of the following courses: 302, 321, 323, 324, 331, 332, 333.

NOTE: Majors planning to teach English must select within the above groups from the following courses as well as meet the above major requirements:

A. One of the following: 303, 323, 324.
B. One of the following: 302, 333, 342.
C. Either 433 or 434.

English 225, with a grade of B or departmental consent, is required of all majors who plan to teach English in junior or senior high school.

English 315, with a grade of B or departmental consent, is required of all majors who plan to teach English in junior or senior high school.

A 2.25 average in the major field and English Department approval is required for admission to the professional semester in the College of Education.

All other courses in the department will be credited toward the major with the following exceptions:

A. 111, 248, 415 will not count toward the major.
B. Only six hours from the following courses will be credited toward the major: 211, 311, 312, 313, 314.
C. With departmental approval, a student desiring a creative writing sequence within his major will fulfill these same requirements as other English majors with the following exceptions: Required courses, 222 or 251 and 225 only; from Period courses, group A, one course only. In addition the student must select at least twelve hours from this group: 311, 312, 313, 314, and University Honors (1-6).

The requirements and exceptions listed above will apply to majors in the College of Education with the following changes:

A. Education 442E is required of all students who plan to teach English in junior or senior high school.
B. Engl. 315 is required by the College of Education of all students who plan to teach English in junior or senior high school.
C. Engl. 461 is strongly recommended for students who plan to teach in junior or senior high school.

MINOR IN THE COLLEGE OF LIBERAL ARTS: The minor requirement is 15 hours, including two of the following courses: 221, 222, 251. At least six hours must be in upper division work.

Only three hours of the following courses will count toward the minor: 311, 312, 313, 314.

The following courses will not count toward the minor: 111, 248, 315.

NOTE: Minors in Liberal Arts planning to teach must meet the requirements listed below which are the same as those for the minor in the College of Education.

MINOR IN THE COLLEGE OF EDUCATION: The minor requirement for those planning to teach junior or senior high school is 18 hours, including the following:

A. 225, 251.
B. Either 221 or 222.
C. 315 (unless waived).
D. One of the following: 302, 323, 324, 342.
E. Either 433 or 434.

A C average in the minor field is required for admission to the professional semester in the College of Education.

Non-Credit Courses

70 English for Foreign Students. (0) 2R; 1C.

80 Writing Improvement Techniques. (0) 3R.

Lower Division Courses


111 College English. (3). See University College, p. 34. FS

201 Narrative in Literature and Film. (3) (2-Lecture; 2-Laboratory). A comparative aesthetic analysis of the art of narration in various literary types and in the film.

211 Advanced Writing. (3). Prerequisite: English 111 FS and sophomore standing; or department consent.

221 & 222 Survey of Major English Writers. (3-3). First semester: from the beginnings through the eighteenth century. Second semester: nineteenth century to the present. Required of all English majors.

223 Books and Ideas. (3). Open to any student but designed primarily for those who wish a course in literature which is appreciative rather than historical.

FAIRMOUNT COLLEGE OF LIBERAL ARTS AND SCIENCES
Literary Theory and Critical Writing. (3). Instruction in critical reading and critical writing through study of representative works in drama, poetry, and prose fiction. Required of all English majors.

Major Plays of Shakespeare. (3). Designed for students, either majors or non-majors, who wish to study the best work of Shakespeare's whole career in one semester. May not be offered for credit by students who have credit in Engl. 433 or 434.

Business Correspondence and Report Writing. (3). Not credited toward an English major or minor. (Formerly offered as Engl. 348.) Prerequisite: English 111 or department consent.

American Literature from Poe to Twain. (3).

American Democracy. (3). Same as Political Science 211 (which see for description).

Upper Division Courses

There is no difference between 300 and 400 courses in this curriculum. All are open to juniors and seniors alike and are offered for graduate credit unless otherwise indicated.

Major American Authors. (3). The works of one or more outstanding figures in American literature. (Formerly offered as Engl. 453.)

American Fiction. (3). (Formerly offered as Engl. 454.)

American Drama. (3). (Formerly offered as Engl. 362.)

Theme and Idea in Literature. (3). Reading, discussion and some writing on literature from all periods, centered on great themes of human thought and action, designed especially for non-English majors. May not be offered for graduate credit.

Inter-related Arts. (3). Inter-departmental course presenting an aesthetic analysis of three arts. The course will emphasize style in the three arts rather than the history of art. (Offered in alternate years.)

Creative Writing: Workshop in Prose Fiction. (3-3). May not be offered for graduate credit.

Creative Writing: Workshop in Poetry and Drama. (3-3). May not be offered for graduate credit.

The Structure of English. (3). Not credited toward an English major or minor, except in the College of Education. May not be offered for graduate credit. (Formerly offered as Engl. 345.)

Elizabethan and Jacobean Drama. (3). (Offered in alternate years.)

Later British Drama. (3). Selected plays from the Restoration to the modern period. (Offered in alternate years.)

Contemporary Drama. (3). English, American, and continental plays of the twentieth century.


Contemporary Fiction. (3). English, American, and Continental novels of the twentieth century. (Formerly offered as Engl. 343.)

Modern British and American Literature from 1900 to 1925. (3).

Modern British and American Literature from 1925 to present. (3).

Elizabethan Literature. (3). Sidney, Spenser, Jonson, and their contemporaries. (Formerly offered as Engl. 334.)

The Age of Donne. (3). The Metaphysical Poets, the Cavalier Poets, and their contemporaries. (Formerly offered as Engl. 336.)

The Romantic Age. (3). Wordsworth, Coleridge, Byron, Shelley, Keats, and their contemporaries. (Formerly offered as Engl. 443.)

Victorian Literature. (3). Dickens, Tennyson, Browning, Arnold, Huxley, Hopkins, Hardy, and their contemporaries. (Formerly offered as Engl. 444.)

The Neo-Classical Age I & II. (3-3). First semester: Dryden, Pope, Swift, and their contemporaries. Second semester: Johnson, Fielding, Richardson, Sterne, and their contemporaries. (Formerly offered as 372.)

The Bible as Literature. (3).

Old English. (3). (Formerly offered as Engl. 421.)

Medieval Literature. (3). Middle English poetry, prose, and drama from the twelfth to the fifteenth century. (Formerly offered as Engl. 432.)

Milton. (3). (Formerly offered as Engl. 336.)

Chaucer. (3).

Shakespeare I & II. (3-3). First semester: Shakespeare's work to 1600. Second semester: Shakespeare's work after 1600. (Formerly offered as Engl. 337 and 338.)

Folklore. (3). (Formerly offered as Engl. 361.)

Literary Criticism. (3). Explores various historical and modern approaches to literary criticism and research. Required of English Majors. Prerequisite: English 225.

History of the English Language. (3).

Theory of Language. (3).

World Masterpieces I & II. (3-3). First semester: selected readings in Oriental, Hebrew, Greek, Roman and Medieval European literature in translation. Second semester: selected readings in European literature of the late Medieval Renaissance and Modern periods in translation.


Independent Reading. (1-3; 1-3). Designed for majors and non-majors who want to pursue special reading or research projects in areas not nor-
mally covered in course work. Admission to courses is determined by the departmental honors committee. May not be offered for graduate credit.

480 & 481 Special Studies. (1-3; 1-3). The individual instructor will announce which literary figure, or groups of figures, or literary problem, or relationship between literature and ideas will be studied during the semester. May be repeated for credit.

Additional honors work: Each semester one upper division course will be designated as an honors course, and enrollment will be limited to Honors students, either majors or non-majors, selected by the departmental honors committee.

Graduate Courses

501 Graduate Period Courses in English Literature. (3). a. Medieval Literature, b. 16th century, c. Age of Donne, d. Restoration and Early 18th century, e. Later 18th Century, f. Romantic Age, g. Victorian Age, h. Modern British Literature. Extensive reading in significant writers and in scholarship and criticism about their work. Lectures, discussions, reports.

502 & 503 Graduate Survey of American Literature I & II. (3-3). First semester: classic American writers such as Hawthorne, Melville, Thoreau, Emerson, Whitman, Dickinson. Second semester: later American writers such as Twain, James, Hemingway, Faulkner, and poets of the 20th century renaissance. Extensive reading in primary and secondary materials, lectures, discussions, reports.


506 Introduction to Graduate Study in English. (3). A course especially designed to prepare students to perform effectively in graduate classes in English. The course is concerned with 1) basic bibliographical tools; 2) terminology, both technical and historical; 3) various approaches to the study of literature such as intrinsic analysis of a literary work, the relationships of biography to literary study, and the relevance of other disciplines, such as psychology, to literature; 4) the writing of interpretative and research essays. Throughout the semester a balance between criticism and research is maintained.

509 & 510 Creative Writing. (3-3). Students who plan to offer a novel, play, or other creative writing as a thesis, will be permitted to do creative writing for graduate credit. The department reserves the right to refuse, without prejudice to the student’s Master of Arts program, any applicant for this work whose success seems doubtful.

511 Directed Reading. (1-3).

520 Graduate Seminars in Special Topics. (3). Intensive study of selected texts, writers, or literary problems. Seminar discussions, reports, and research projects. With department consent, may be repeated for credit.

531 Major Plays of Shakespeare. (3).

575 Master’s Essay. (1-3).

FRENCH

MAJOR. A major in French consists of 24 semester hours beyond French 111-112 or their equivalent, and must include the survey of French literature (six hours). In addition, it is strongly recommended that French majors (1) choose a minor in some other foreign language, and (2) elect, where possible, complementary courses such as those appearing in the fields of History, Philosophy, and Political Science.

MINOR. The French minor consists of 19 semester hours, or if high school equivalent is accepted, 11 hours beyond the French 112 level. In either case, 8 hours or the equivalent are required on the intermediate level (including 221-222, 225), plus a three hour upper division course exclusive of Major Topics.

Lower Division Courses

111-112 Elementary French (4-4). 3R; C. and L. A year course. Speaking, reading, writing, including grammar essentials, and oral homework involving regular outside use of the language laboratory.

221-222 Intermediate French Readings. (3-3). Intensive reading of French literary works and grammar review. Prerequisite: French 112 or equivalent. (221 is not open to students with prior credit in French 223.)

225-226 Intermediate French Conversation and Composition. Oral assignments will involve some regular work in the language laboratory. Prerequisite for 225: French 112 or equivalent.

232 French Civilization. (2). The background of history, art, and institutions. Prerequisite: French 221 or 225, or 112 with department consent.

Upper Division Courses

Upper division courses are given on a rotating basis. French 222 is prerequisite for all upper division literature courses.

310 Phonetics and Diction. (2). Prerequisite: French 112 with department consent.

315-316 Major Topics. (1 to 3). Work may be done in any field or period agreed upon. Total credit not to exceed 4 hours. Prerequisite: French 222 with a "C" or better, or department consent.

330 Explication de textes. (3). Scrutiny of poetry and prose passages, with a careful study of the contents, style, author, and background. Prerequisite: French 222.

331 & 332 French Theater. (3-3). First semester: Moliere, Corneille, and Racine. Second semester: development of the drama from the 18th century to the present.


336 Advanced Composition. (3). Emphasis on theme writing and idiomatic French. Prerequisite: French 222.

442 & 443 Nineteenth Century. (3-3). First semester: 19th century prose and poetry from the Revolution to 1852. Second semester: 1852 to the present.

GEOLGY AND GEOGRAPHY

MAJOR. A major with a Bachelor of Arts degree requires 30 hours, including Geology 333, 337, 361, and prerequisite courses.
A major with a Bachelor of Science degree requires 36 hours of geology, including Geology 333, 337, 361, and prerequisite courses; and 35 hours from the fields of mathematics and the sciences, to include a minor in one of the sciences or in mathematics, 19 hours of Physics, and not less than 5 hours each in chemistry and biology; completion of Geology 335-336, or a summer field course at an accredited university.

NOTE: No major is offered in geography.

MINOR. A minor in geology consists of 15 hours. A minor in geography consists of 15 hours, including Geography 201 and at least one upper division course. Students with a major in geology may not present a minor in geography for graduation.

GEOL OGY

Lower Division Courses

105 Introduction to Geology. (2). 1R; 2L. A short elementary course in physical and historical geology, emphasizing the practical aspects of the science. Not for major credit. Not open to students with credit in Geol. 111.

111 General Geology. (5). 3R; 4L. The earth and its materials, structure and history; the various processes operating to change its aspects and composition.

112 Historical Geology. (4). 2R; 6L. History of the earth from the time of its origin as a planet to the appearance of man. Prerequisite: Geol. 111.

205 Geology of Kansas. (2) 2R. The events of earth history as they relate to Kansas and the general Mid-Continent area. Physiology, stratigraphy, structural geology, and mineral resources of Kansas. Prerequisite: Geol. 111 or 105, or instructor’s consent.

211* Astronomy. (3). 2R; 2L. An introductory study of extraterrestrial realms and materials, including the solar and galactic systems, their apparent origins, developmental histories, components, and motions. Prerequisite: Math 112 or 141. Does not apply toward a major or minor in Geology.

225 Mineralogy. (5). 3R; 6L. Crystallography, and the determination of minerals by physical, optical, and chemical methods. Prerequisite: Geol. 112 and Chem. 111 or concurrent enrollment.

226 Petrology. (4). 3R; 3L. The origin, modes of occurrence, alterations, classifications, and methods of determination of igneous, sedimentary, and metamorphic rocks. Prerequisite: Geol. 112 and 225.

Upper Division Courses

331 Geomorphology. (3). 2R; 3L. Genesis and interpretation of land forms; major physiographic provinces of North America. Prerequisite: Geol. 201 or Geol. 112.

333 Structural Geology. (3). The mechanics of rock deformation; the description and genesis of features resulting from diastrophism. Prerequisite: Geol. 226 and Physics 223.

335 Field Mapping. (2). 6L. Field mapping methods, with special reference to use of level, compass, barometer, alidade, and air photos. Prerequisite: Geol. 201 or Geol. 112.

336 Field Stratigraphy. (3). 9L. Field geology and stratigraphy of Eastern Kansas. Prerequisite: Geol. 112.

337 Invertebrate Paleontology. (3). 2R; 3L. Invertebrate fossils, criteria of identification, classification. Prerequisite: Geol. 112, or Biology majors upon instructor’s consent.

347 Sedimentology. (3). 2R; 3L. Origin, classification, texture, and structure of sedimentary rocks. Prerequisite: Geol. 226 or department consent.

361 Economic Resources. (3). 2R; 3L. Distribution, classification, composition, and origin of economic resources, with especial reference to fuels, minerals, and rocks. Prerequisite: Geol. 226.

425* Optical Analysis. (4). 2R; 6L. Use of the polarizing microscope; mineral identification and rock classification. Prerequisite: department consent.

436* Vertebrate Paleontology. (7). 2R; 3L. Systematic study of the fossil record of the vertebrates; laboratory training in identification of fossil bones and teeth; emphasis on regional faunas; collecting and museum trips required. Prerequisite: Geol. 112 and Biol. 191; or Biology majors upon instructor’s consent.

448* Micropaleontology and Paleynology (5) 3R; 4L. This course is designed to prepare students to work in laboratories of oil companies, geological surveys and oceanographic stations. Emphasis on latest techniques, identifications, and use in correlation of foraminifera, fusulinids, dinoflagellates, coccoliths, spores, pollens, palynomorphs, etc. Prerequisite: Geol. 112 and consent of instructor.

449* Map Interpretation and Photogrammetry. (3). 2R; 3L. Construction, use, and interpretation of maps; use and interpretation of aerial photographs. Prerequisite: Geol. 201 or Geol. 112.

445* Subsurface Geology. (2). 2R; 3L. All subsurface methods, including laboratory, logging, testing, treatment, valuation, and mapping methods. Prerequisite: Geol. 226 and Physics 124.

444* Petroleum Geology. (3). 2R; 3L. Origin, migration, accumulation of oil and gas in the earth’s crust. Distribution and significant features of modern fields. Prerequisite: Geol. 112.

445* Subsurface Formation Evaluation. (2). Detailed study of fluid content, fluid pressures, and other characteristics of subsurface formations as revealed by electric logs, other types of mechanical logs, and various testing devices. Introduction to the principles and uses of shut-in pressure build-up data. Prerequisites: Geol. 443 and 444.

446* Advanced Historical Geology. (3). The events of earth history, particularly those of North America, and the origin and evolution of plants and animals. Prerequisite: Geol. 112.

448* Sedimentary Petrography. (3). 1R; 6L. Macroscopic and microscopic examination of sedimentary materials. Prerequisite: Geol. 347.

462* Ore Deposits. (3). 2R; 3L. An advanced treatment of the occurrence, classification, and origin of metaliferous ore deposits. Prerequisite: department consent.

480 Geochemistry. (3) 3R. The chemistry of earth materials; the important geochemical processes and cycles operating on and within the earth through time. Prerequisites: Geol. 226 and 361 and 10 hours of chemistry.

Graduate Courses


505* Advanced General Geology. (4). 2R; 6L. Principles, physical processes, structure, earth history, and economic implications of geology, based upon a study of original sources; student reports. Prerequisite: instructor's consent.

511* Geophysics. (3). The physics of the earth and the methods of determining various physical data pertaining to geology. The fundamental principles underlying seismic, gravitational, magnetic, and electric methods will be emphasized. Some consideration will be given to the thermic, electrical, and radio-active methods used in obtaining data from bore holes. Prerequisite: Physics 124 or instructor's consent.

521* Stratigraphy. (3). 2R; 3L. The principles governing the classification and nomenclature of sedimentary rock sequences. Special emphasis on problems of correlation and facies changes in regions which give petrolierous possibilities. Prerequisite: instructor's consent.

530 Petrography. (4). 2R; 4L. An introduction to the study of mineral composition and textures of igneous, sedimentary, and metamorphic rocks as displayed in thin sections. Modes of genesis are studied by giving consideration to the mineral grain relations and to gross field aspects of rock units. Prerequisite: Geology 425.

534* Geotectonics. (3). Physical and geological principles of crustal deformation and tectonic interpretation; orogenies and epeirogenies in their time-space relationships; special reference to structural geology of North America. Prerequisite: instructor's consent.

537* Paleoeology. (3). Reconstruction of ancient terrestrial and marine environments. Emphasis on synthesis of total raw data (palentological, sedimentary, mineralogical, stratigraphic, etc.) Prerequisite: instructor's consent.

549 & 550 Geology Seminar. (1-1). Review of current FS periodicals. Reports on student and faculty research. Prerequisite: instructor's consent. May be repeated for credit up to 2 hours each.

575 & 576 Thesis. (2-2).

*May be offered only in alternate years.

**May be repeated for credit up to 8 hours.

GEOGRAPHY

Lower Division Courses

125 Principles of Geography. (3). An introductory course in college geography, emphasizing the relationship between human activities and natural environment.

201 Physical Geography. (3). 2R; 2L. Emphasis upon the physical basis of geography, including climate, terrain, soils, landforms, and the seas; economic re-

sources; cartographic elements; introduction to regional studies.

210 World Geography. (3). A general survey of world geography, including an analysis of the physical, political, economic, historical, and human geography of the major world regions.

235* Meteorology. (3). 2R; 2L. An introductory study of the atmosphere and its properties and the various phenomena of weather; a brief survey of important principles of physical, dynamic, synoptic, and applied meteorology. Prerequisite: Math 121 or equivalent. Does not apply toward a major or minor in Geology.

Upper Division Courses

302 Geography of Anglo-America. (3). Physical, political, economic, historical, and human geography of the United States and Canada. Lectures, assigned readings, films, and reports.

331 Geomorphology. (3). 2R; 3L. (See Geol. 331.) S

335 Field Mapping. (2). 6L. (See Geol. 335.) F

342* Geography of Europe. (3). 3R. Physical, political, economic, historical, and human geography of Europe. Lectures, assigned readings, films and reports.

361 Economic Resources. (3). 2R; 3L. (See Geol. 361.) S


440* Map Interpretation and Photogrammetry. (3). 3R; 3L. (See Geol. 440.)

*May be offered only in alternate years.

GERMAN

MAJOR. A major in German consists of a minimum of 24 hours beyond the level of German 112 and including German 325. In addition, the student should elect courses in one or other foreign language, English language and literature, history, and philosophy.

MINOR. A minor in German consists of a minimum of 11 hours beyond the 112 level, to include German 225 and one upper division literature course.

Lower Division Courses

111-112 Elementary German. (4-4). 3R; C. and L. FS

223-224 Intermediate German. (3-3). Grammar review; intensive reading of short stories; extensive reading of one short novel. Prerequisite: German 112 or equivalent.

225-226 German Conversation and Composition. (2-2). Use of language laboratory develops fluency; dictation and free composition exercises develop style. Prerequisite: German 112 or equivalent.

Upper Division Courses

Except as noted, all upper division courses have as prerequisite German 224 or department consent.

321 German in Technical Fields. (3). Supervised individual readings in the student's field of specialization—humanities, social sciences, or natural sciences.
Prerequisite: German 228.

325-326 Advanced Composition and Grammar. (2-2). Prerequisite: German 228 or department consent.

331 & 332 Survey of German Literature. (3-3). First semester: to the 18th century. Second semester: 18th century to the present. (Offered in alternate years.)

336 & 337 The Eighteenth Century. (3-3). Enlightenment, Sturm and Drang, and Classicism in the works of Goethe, Schiller, and their contemporaries. (Offered in alternate years.)

421 Seminar in German Romanticism. (3). (Offered in alternate years.)

423 Seminar in Nineteenth Century Literature. (3). (Offered in alternate years.)

435 Seminar in Drama. (3). (Offered in alternate years.)

436 Seminar in Contemporary Literature. (3). (Offered in alternate years.)

HISTORY

MAJOR. 31 hours minimum. The major will specialize in one of the following areas:

I. Ancient and Medieval

II. Modern Europe

III. England

IV. United States

V. Latin America

Students electing group I through III will take 101 and 102 and one other lower division course. Students electing group IV or V will take 131 and 132 and one other lower division course. Nine upper division hours are to be selected from courses in the appropriate group, chosen in consultation with an adviser. All majors will take 498 and 499. In addition, sufficient hours will be elected to bring the total to 31. At least 5 of these hours must be at the upper division level and may not be in the area of specialization.

MINOR. A minor in the College of Liberal Arts and Sciences consists of 15 hours, including either 101 and 102 or 131 and 132 and at least three upper division hours.

Lower Division Courses

101 & 102 History of Western Civilization. (4-4). 101: Prehistory to 1648 (closed to those with credit in 111). 102: 1648 to the present (closed to those with credit in 112).

113 & 114 English History. (3-3). 113: from the earliest FS times to the beginning of the Stuart period, emphasizing the origin and development of institutions, customs, and nationalism. 114: from the beginning of the Stuart period to the present.

125 & 126 History of the Americas. (3-3). A survey of the history of the New World with some emphasis on institutional development and interrelationships. 125: prehistory to 1826. 126: 1826 to the present.


225 & 226 History of Latin America. (3-3). First semester: Spanish and Portuguese colonization of America. Second semester: the national period from the wars of independence to the present. Prerequisite: sophomore standing.

271 & 272 The Far East. (3-3). A survey of the social, economic and political development of the Far East with emphasis on China, India, and Japan. Prerequisite: sophomore standing.

Upper Division Courses

301 & 302 The Ancient Mediterranean World. (3-3). 301: the ancient Near East and the Greek world to the death of Alexander the Great. 302: the Hellenistic Age: the Roman Republic and Empire to 565 A.D.

305 & 306 Greek History. (3-3). 305: the Hellenic World from prehistoric times to the end of the Peloponnesian War. 306: the fourth century and the Hellenistic period.


323 & 324 Medieval History. (3-3). 323: the history of Europe from the fall of the Roman Empire through the Crusades. 324: continues to 1500.

326 Republic of Mexico. (3). Mexico from the independence movement to the present.

327 History of Brazil. (2). Brazil from independence to the present.

328 Inter-American Relations. (2). Includes economic and cultural as well as political.

331 Colonization of North America. (2). The English colonies in America and the war of independence.

332 United States: 1783-1850. (3).


413 Eighteenth Century Great Britain. (3). From the accession of William and Mary to the French Revolution.

414 Nineteenth Century Great Britain. (3). From the French Revolution to the death of Queen Victoria.

422 The Northern Renaissance. (2). The transfer of the cultural influence of Italy north of the Alps and the cross influence of northern European cultural and political phenomena.

423 The Italian Renaissance. (2). Italian history from the fourteenth through the sixteenth centuries with an emphasis on cultural achievements.

424 The Reformation. (2). The great religious changes of the sixteenth century in their political, social, and intellectual contexts.

431 Civil War and Reconstruction. (3). 1850-1876.

432 United States, 1876-1914. (3).

433 Recent United States History. (3). 1914 to the present.

436 Development of American Capitalism Since 1865. (3). The economic growth of the United States from the Civil War to the present.

437 Social and Intellectual History of the United States. (3).

441 History of Kansas. (2).

442 & 443 History of Eastern Europe. (3-3). The development of the Bulgarian, Czech, Magyar, Polish, Rumanian, and Yugoslav peoples.
The American West. (3). From the first European contacts to 1890.

447 & 448 American Diplomacy. (3-3). 447: from independence through the Civil War. 448: continues to the present.

450 The French Revolution and the Napoleonic Period. (3).


453 & 454 History of Russian Thought. (3-2).

455 & 456 Europe Since 1870. (3-3). 455: politics and diplomacy leading to World War I. 456: politics and diplomacy leading to World War II.

457 Social and Intellectual History of Europe. (3). The major intellectual and social currents of European history and their connection to historical events.

462 Seventeenth Century Europe. (3).


464 Europe, 1815-1870. (3).

495 Special Topics in History. (2 to 4).

498 Historiography. (2). Masterpieces of historical literature. Required of all majors. Open only to history majors and graduate students in history. Prerequisite: Seniof standing.

499 Introduction to Research. (2). Includes historical writings, philosophies, and methods. Required of all majors. Open only to history majors and graduate students in history. Prerequisite: senior standing.

Graduate Courses

531 & 532 Seminar in American History. (3-3). Includes both United States history and Inter-American relations. Prerequisite: consent of department. May be repeated for credit.

553 & 554 Seminar in Modern European History. (3-3). Prerequisite: consent of department. May be repeated for credit.

575 Thesis Research. (1-3).

576 Thesis. (1-3).

ITALIAN

Italian is an offering of the Spanish Department. No major or minor is offered.


223 Selected Italian Readings. (3). Intensive reading of Italian literary works. Discussion in Italian, oral and written summaries. Prerequisite: Ital. 112, or two units of high school Italian or department consent.

JOURNALISM

MAJOR. The major in journalism consists of 31 hours, including Journalism 111 or 112, 225, 232, 335, and 340 and completion of one of the options listed below.


Journalism majors will be required to take 12 hours in the social sciences and 12 hours in the humanities over and above the general University requirements, such courses to be specifically selected with the aid of the journalism faculty.

In addition, the Department, in conjunction with the Department of Speech, offers a combined major designed to train students in radio and television journalism.

BROADCAST-JOURNALISM COMBINED MAJOR:

Speech 111, 114, 214, 215, 224, 314 or 315, 323, 324, 332, 405, 406, and Journ. 226, 232, 327, 428.

MINOR. The minor consists of 15 hours, including Journ. 226 and 335, 3 additional lower division hours, and 6 additional upper division hours.

Lower Division Courses

111 The Press and the Citizen. (2). The role of the press FS in shaping public affairs. A survey of the various media of mass communication. For non-journalism as well as journalism majors.

112 American Journalism. (2). The history of American S newspapers, magazines, and other media of mass communications and the growth, development, and effectiveness of American journalism. A consideration of the developing ethics in journalism and of freedom of the press in America from the Colonial period to the present.

FS 226 Newswriting and Reporting. (3). 2R; 3L. Practice in gathering and writing various kinds of news reports and in recognizing and evaluating news events. Qualified students may be permitted to participate in the production of the school-laboratory newspaper. Prerequisite: Eng. 111 and sophomore standing.

FS 323 Photographic Journalism. (3). 2R; 3L. History, theory and basic art of press photography with emphasis on knowledge of photo-journalism needed by writers and editors. Students will be required to take, develop, and print pictures suitable for publication. The department's press cameras and laboratory facilities will be available for student use. Prerequisite: 3 hours of journalism and sophomore standing, or department consent.

Upper Division Courses

323 Radio and TV Reporting and Newswriting. (3). S Methods of reporting and writing news for radio and television; editing the wire, script writing technique; station experience in broadcasting. A consideration of the differences in news and style requirements of radio, television, and newspapers. Prerequisite: Journ. 226 and 232. Not open for credit to those who have taken Journ. 301.

324 Radio and TV Newscasting. (3). Experience in preparation and broadcasting of newscasts and news commentaries. Prerequisite: Journ. 323 with a grade of C or better, or department consent. Not open for credit to those who have taken Journ. 302.

327 Interpretative Reporting. (3). 2R; 4L. Reporting and practice in handling the more difficult types of news and feature copy, with emphasis on interviews and improved quality of writing. Practice on the Sunflower. Prerequisite: Journ. 226 and ability to type-write, or department consent.

335 Fundamentals of Copyreading and Makeup. (3). 2R; F 4L. Problems and practice in newspaper headline writing, copyreading, and page makeup. Prerequisite: Journ. 226.

FAIRMOUNT COLLEGE OF LIBERAL ARTS AND SCIENCES
336 Advanced Editing. (3). 2R; 4L. Study of and practice in advanced editing techniques, including the processing of press association copy, regulating and controlling newsroom copy flow magazine and tabloid makeup. Prerequisite: Journ. 335 with a grade of C or better or department consent.

338 Principles of Advertising. (3). General survey of advertising and sales promotion. The several phases of advertising creation and production. Emphasis on marketing research, copy testing, packaging and branding, and related problems. Designed to give a general understanding of advertising, with some practice in techniques.

339 Advertising Copy and Layout. (2). 2R; 2L. Basic copy structure, appeals, and plans. Practice in the preparation and writing of advertising copy. Study of and practice in the visualization and layout of advertisements. Prerequisite: Journ. 338 or department consent.


336 Journalism Internship. (4). Individual training for journalism majors. Students will work on newspapers or in advertising offices or public relations offices of this region under the supervision of the department and officials of the firms concerned for 20 hours a week for one semester, 40 hours a week during the summer session, or 10 hours a week for two semesters on campus. Prerequisite: Department consent.

428 Public Affairs Reporting. (3). 2R; 2L. Emphasis on reporting the news, including politics and government, business and finance, labor, courts, and police. Prerequisite: Journ. 327 and senior standing, or department consent.

438 Advertising Copywriting and Campaigns. (3). 3R. A study of advanced copy techniques. Emphasis on planning and controlling integrated advertising campaigns. Actual practice in soliciting and preparing advertising for publication in printed media. Prerequisite: Journ. 437 or department consent.

443 Newspaper Problems and Policies. (3). 2R; 3L. Theory of and practice in the function and responsibilities of newspaper editors. Emphasis on personnel problems, creation and control of editorial policy, news policies, and newspaper public relations. Members of the class will be assigned executive staff positions on the school-laboratory newspaper for periods of one semester. Prerequisite: Journ. 327 and 335, or department consent.

445 Editorial Interpretation of Contemporary Affairs. (2). Analysis of contemporary opinions, and practice in writing in terms of modern social problems.

447 Individual Research in Journalism. (1 to 2). Exhaustive investigation by individual students of specific aspects of the field, such as public relations, editorial policy, history, ethics, or contemporary practices. Emphasis on the use of source materials and the writing of a paper suitable for publication. Prerequisite: senior standing and 20 hours of journalism.

448 Seminar. (3). Exhaustive investigation by individual students of single aspects of a major problem in journalism under group study by the class. Prerequisite: senior standing and 20 hours of journalism.

LATIN AND GREEK

MAJOR. The major in Latin consists of 30 hours, including at least 10 hours of upper division courses.

It is recommended that Latin majors take History 307 and 308 (Roman) and History 323 and 324 (Medieval).

MINOR. A minor in Latin consists of 15 hours or, if high school equivalent is accepted, of 12 hours beyond the 112 level. In either case a 300 course must be included.

LATIN

Lower Division Courses

111-112 Elementary Latin. (4-4). Forms, syntax, vocabulary, and reading of stories from Roman history and mythology and from Caesar's Gallic Wars.

223 Cicero. (3). Reading of three orations and two philosophical essays. May be repeated once for credit. Prerequisite: Latin 112 or equivalent or department consent.

224 Vergil's Aeneid. (3 to 5). Mythology and practice in metrical reading. Emphasis on the literary value of the material. Prerequisite: Latin 112 or equivalent or department consent.

226 Horace. (3). Selections from the Odes. Prerequisite: Latin 223 or 224.

250 The Latin Element in the English Language. (2). A systematic consideration of related roots and affixes in the two languages. Prerequisite: sophomore standing or department consent; previous knowledge of Latin not required.

Upper Division Courses

309 Advanced Latin Composition. (3). Translation of ordinary English prose into Latin. Prerequisite: 10 hours college Latin or equivalent or department consent.

322 Selected Readings. (2-3). Prerequisite: 10 hours college Latin or equivalent or department consent. Work may be selected from the following fields:

(a) Medieval and Renaissance Latin
(b) Ovid and Martial
(c) Tacitus, Livy, and Sallust

331 Pliny. (2). The reading of Pliny's Letters. Prerequisite: 10 hours of college Latin.

332 Plautus. (2). The reading of the Captivi and the Trinummus. Prerequisite: 10 hours of college Latin.

GREEK

Lower Division Courses

111-112 Elementary Greek. (4-4). Forms, syntax, vocabu-
lary, and reading of selections from Xenophon's *Anabasis*.

251 Greek in English. (3). Designed to afford an acquaintance with and appreciation of the Greek language. Sufficient study is made of forms to provide training in the recognition and meaning of English words derived from the Greek.

Upper Division Course


MATHEMATICS

Since a satisfactory major depends primarily on a suitable combination of courses, the courses which comprise the major must be approved by the department.

MAJOR: A major should include, in all cases, 244 (or 252), 313, and 335 (or 450 for students with special interest in applications); and a reasonable distribution of additional courses to cover properly the field. In addition, Phi. 325 is required.

For the B.A. degree, the major requires a minimum of 15 hours of upper division work. The foreign language should be French or German.

For the B.S., the major requires a minimum of 21 hours of upper division work and the completion of one of the sequences 313-314 and 335-336. In addition, except for a statistics emphasis, one course should be taken from among 405, 412, 415 and one from 437, 438, 446. For a statistics emphasis, 371, 471, and 472 should be elected at the possible expense of the two courses suggested above. In addition, nine hours of upper division credit in Philosophy or in one of the Natural or Social Sciences are required. The foreign language must be French or German.

MINOR: There are two sequences leading to a minor, both requiring a minimum of 15 hours. One requires Math. 243 (or 251) and at least one upper division course. The other consists of Math. 121-122-245 and at least 6 hours of upper division work.

INITIAL PLACEMENT PROCEDURES: 1. Students with high school prerequisites for Math. 121 or 141 may register for either of these courses without examination.

2. Students without these prerequisites may be granted placement in 121 or 141 by passing a placement examination at this level. Otherwise, the appropriate non-credit courses should be taken (50, 60, 70).

3. Students with high school work equivalent to 141 may be granted placement in 142 by passing a placement examination over the material of 141. Placement may also be granted in 251 by passing an additional examination on analytic geometry.

4. Special cases may be placed at any other appropriate level by the department.

Non-Credit Courses

50 Elementary Algebra. (0). 3R. For students without high school credit in algebra. May be used, in meeting department prerequisites, in place of one unit of high school algebra.

60 Plane Geometry. (0). 3R. For students without high school credit in plane geometry. May be used, in meeting department prerequisites, in place of one unit of high school geometry. Prerequisite: One unit of high school algebra or concurrent enrollment in Math. 50.

70 Intermediate Algebra. (0). 2R. A continuation of FS the study of elementary algebra. May be used, in meeting department prerequisites, in place of the third half unit of high school algebra. Prerequisite: One unit of high school algebra.

Lower Division Courses

106 Introduction to Mathematics. (3). An introduction FS to the nature of mathematics, including the concept of number, the ideas of geometry, and the historical motivations for the development of mathematics. Not open to students with more than one unit of high school algebra, nor to students initially entering the University after September 1, 1963.

121-122 Discrete Mathematics. (3-3). Set theory, probability, linear algebra, the elements of statistics, and related topics. Prerequisite: For 121, one and one half units of high school algebra or one unit of high school algebra and concurrent enrollment in Math. 70. For 122, 121 and one unit of high school geometry.

141 Algebra and Trigonometry. (5). Functions, theory of FS equations and inequalities, complex numbers, the trigonometric functions, exponential and logarithmic functions, and other standard topics prerequisite to a beginning study of analysis. Prerequisite: One and one half units of high school algebra and one unit of high school geometry.

142 Introductory Analysis I. (5). Analytic geometry FS and the Calculus in an inter-related form. Prerequisite: Math. 141 with a C or better.

181-182 Honors Analysis I and II. (3-3). An introductory FS study of mathematical analysis. Prerequisite: Honors standing and 141 or High School equivalent, or consent.

243-244 Introductory Analysis II and III. (4-4). The continua-tion of Math. 142. Includes integration, multiple integration, elementary differential equations, and a survey of elementary function theory. Prerequisite: Math. 142 or 152 with a C or better. For 244, a C or better in 243.

245 Survey of Analysis. (3). A brief but careful intro-F duction to mathematical analysis intended for students of the other humanities and the social sciences. Prerequisite: Math. 122 with a C or better. Credit in both 245 and 142 (or 261) is not allowed.

251-252 Calculus I and II. (5-5). The topics of 142-243-244, excluding analytic geometry, for those having already a course in analytic geometry. (Formerly, Math. 299 and 300.) Prerequisite: Consent of department. For 252, a C or better in 251 (or Math. 245 and consent in specially designated sections).

281-282 Honors Analysis III and IV. (3-3). 281 completes the material of 142-243-244 and may be used as the equivalent of 244 in meeting prerequisites. 282 includes additional topics from analysis and linear algebra. Prerequisite: 182 with B or better, or equivalent high school preparation, or consent.

Upper Division Courses

303 & 304 Topics in Modern Mathematics. (3-3). An investigation of the newer topics in the elementary and secondary school curricula. Prerequisite: Consent of department.
Introduction to Statistics. (2). Prerequisite: Math. 121 or 141. Closed to majors and to those with credit in 105 or 371.

Introduction to Set Theory. (2). Basic naive and FS axiomatic set theory. Prerequisite: Math. 243, (or 251), or 245; or consent of department.

Fundamental Concepts of Algebra I and II. (3-3). FS Groups, rings, fields, linear spaces and linear algebras. Prerequisite: Math. 243 (or 251), or 245; or consent of department.

Intermediate Analysis I and II. (4-4). A detailed study of limits, continuity, the Riemann integral, the calculus of functions of "several variables," line and surface integrals. Prerequisite: Math. 244 (or 252) with a C or better. For 336, a C or better in 335.

Applied Analysis I. (3). Differential equations, Laplace transforms, and numerical methods. Prerequisite: Math. 244 (or 252) with a C or better. Credit in both 349 and 446 is not allowed.

Statistical Methods. (3). Applied statistics through analysis of variance. Prerequisite: Math. 121 or 141 with C or better.

Elementary Mathematics. (3-3). Topics necessary to an understanding of the elementary school curriculum, such as set theory, the real numbers, and geometry. Prerequisite: Elementary education major or consent of department.

Mathematics of Data Processing. (3). The arithmetic and logic of computers. Prerequisite: Math. 121 or 141, or consent of department.

Matrix Algebra. (3). Fundamental theory and applications. Prerequisite: Math. 245 and upper division standing; or Math. 142 and upper division standing; or consent of department. Not open to students with credit in Math. 314.

Elementary Algebraic Structures. (3). Various topics selected from Boolean algebras, group theory, partially ordered sets, combinatorial algebra and other special algebraic systems. Prerequisite: Math. 313 with C or better.

Modern Geometry. (3). Fundamental concepts. Prerequisite: Math. 245 and upper division standing; or Math. 243 (or 251); or consent of department.

Elementary Number Theory. (3). The properties of the integers studied by elementary means. Prerequisite: Math. 245 and upper division standing; or Math. 244 (or 252); or consent of department.

Elementary Topology. (3). Primarily the topology of metric spaces. Prerequisite: Math. 335 with a C or better, or consent of department.

Introduction to Complex Analysis. (3). A basic treatment of analytic functions. Prerequisite: Math. 335 or 460 with a C or better in prerequisite course, or consent of department.

Differential Equations. (3). Includes existence theory. Prerequisite: Math. 335 with a C or better, or consent of department. Credit in both 349 and 446 is not allowed.

Applied Analysis II. (3). Advanced Calculus from the applied viewpoint. Prerequisite: Math. 349 with a C or better, or consent of department.

Numerical Analysis. (3). Prerequisite: Math. 335 or 450 with a C or better in prerequisite course, or consent of department.

Probability and Statistics. (3-3). A course in the theory of the subject. Prerequisite: Math. 244 (or 252) and one of 309, 313, or 335, with C or better.

Individual Projects. (1 to 5). May be repeated to a total of 10 credits. Prerequisite: Consent of department.

Graduate Courses

Real Analysis. (3-3). A study of the foundations of analysis and of the fundamental results of modern real analysis. Prerequisite: Math. 309 and 336, or consent of department.

Abstract Algebra. (3-3). A treatment of the standard basic topics in abstract algebra. Prerequisite: Math. 309 and 313, or consent of department.

Complex Analysis. (3-3). The theory of analytic functions. Prerequisite: Consent of department.

Topology. (3-3). Point set and algebraic topology. Prerequisite: Consent of department.

Proseminar. (1). Required of all graduate majors in their first 12 hours. Prerequisite: Major standing.

Individual Reading. (1 to 5 — 1 to 5). Prerequisite: Consent of department.

Special Topics. (2 or 3). May be repeated by consent.

Analysis
Algebra
Geometry
Topology
Applied Mathematics
Foundations
Number Theory
Statistics
Methodology of Science

Prerequisite: Consent of department.

Applied Analysis III and IV. (3-3). Basic complex analysis, ordinary and partial differential equations, and other standard topics in applications. Prerequisite: Math. 446 or 450 with C or better, or consent of department.

Thesis. (2-2). Prerequisite: Consent of department.

MEDICAL TECHNOLOGY

NOTE: The courses in Medical Technology are offered by the School of Medical Technology, St. Francis Hospital, and by Wesley Hospital, Wichita, Kansas. For the complete curriculum in Medical Technology see page 37.

Upper Division Courses

Bacteriology. (5).

Biochemistry. (6).

Parasitology. (3).

Bacteriology. (5).

Biochemistry. (6).

Parasitology. (3).
PHILOSOPHY

The department of philosophy offers coursework relative to four fields of concentration, around which a student can plan a program leading to an undergraduate or graduate degree in philosophy, in consultation with the major advisor and the head of the department.

I. Metaphysics and Epistemology
II. Logic and Philosophy of Science
III. Ethics and Political Philosophy
IV. History of Philosophy

MAJOR. A major requires a minimum of 32 semester hours of philosophy courses including Phil. 121 or Phil. 150 or equivalent, Phil. 225, Phil. 244, and at least 12 hours of upper division work in philosophy.

MINOR. A minor consists of 15 hours of philosophy selected in consultation with the department, with the aim of orienting the student to the philosophic aspects of his major field.

Lower Division Courses

121 General Philosophy. (3). An introduction to the philosophic principles and methods employed in treating the problems of truth and validity, reality and appearance, and good and evil, by means of an analysis of the classical doctrines of the nature of things, the structure of knowledge, and the criteria for moral value.

150 Philosophy in the Twentieth Century. (3). An introduction to philosophy through the main currents of present-day thought.

225 Logic. (3). An introduction to the basic principles of rational thinking, with an emphasis on argument forms, deductive techniques, and methods of proof.

226 Philosophic Foundations of Scientific Method. (3). A study of the basic philosophic presuppositions of the scientific method, as exemplified in the problems of induction, deduction, hypothesis, evidence, probability, verification, definition, and experimental technique.

244 Ethics. (3). A comprehensive study of the classical and modern theories of social and moral values as they give meaning to the concepts of law, morality, tradition, and social reality.

275 Aesthetics. (3). A study of the various philosophic conceptions of the fine arts, and an analysis of the notions of imitation, imagination, expression, creativity, feeling, intuition and technique, as they relate to the aesthetic context of artist, audience and the work of art.

Upper Division Courses

325 Symbolic Logic. (3). Symbolic techniques used in establishing basic logical principles in demonstrations and in constructing rigorous proofs.

326 Advanced Symbolic Logic. (3). A continuation of Philosophy 325, including areas such as the logic of relations, properties of formal deductive systems, identity and definite description, alternative notations, the theory of types, logical paradoxes, etc. Prerequisites: 325 or consent of the instructor.

331 History of Philosophy: Thales to Plotinus. (3). A study of the basic philosophic systems from the Pre-Socratics to the Hellenistic Period, with an emphasis on the works of Plato and Aristotle.


334 History of Philosophy: Berkeley to Kant. (3). A study of the philosophers of the modern period with an emphasis on the doctrines of Berkeley, Hume, and Kant.

335 History of Philosophy: Hegel to Nietzsche. (3). A study of the later modern period, selected from such authors as Hegel, Fichte, Schelling, Schopenhauer, Kierkegaard, Peirce, James, and Nietzsche.


345 Classical and Medieval Political Theory. (3). Same as Political Science 345. (See for description).

356 American Pragmatism. (3). An examination of the major philosophic movement of America, and its consequences in regard to the doctrines of behaviorism, operationalism, utilitarianism and democracy.

360 Ethical Theory. (3). A concentrated study of ethical theory in the context of certain fundamental ethical problems. Prerequisite: 121 or 244 or equivalent.

369 Existentialism. (3). An examination of the leading contemporary philosophic movement in Europe as expressed in the writings of Kierkegaard, Nietzsche, Schopenhauer, Heidegger, Sartre, Merleau-Ponty, and Strauss. Prerequisite: 121 or equivalent.

380 Phenomenology. (3). A study of the phenomenological movement in philosophy, with special attention to its source in Husserl; and an introduction to its recent developments in such thinkers as Scheler, Heidegger, Sartre, Merleau-Ponty, and Strauss. Prerequisite: 121 or equivalent.

404 Analytic Philosophy (3). A critical examination of philosophic method and language as treated by the contemporary analytic movement in philosophy, as embodied in the "ordinary language" school and the logical positivists. Selections will be taken from the writings of Wittgenstein, Russell, Carnap, Ayer, Moore, Broad, Stevenson, Strawson, Ryle and others. Prerequisite: Philosophy 121 or equivalent.

420 Logical Theory. (3). A study of the views of selected philosophers such as Aristotle, Kant, Hegel, Peirce, Quine, Strawson and Veatch concerning the nature and function of logic and other selected problems in logical theory. Prerequisite: Philosophy 225 or 325, or consent of instructor.

425 Philosophy of Science. (3). Consideration of the presuppositions, results and limitations of the natural and social sciences; the relations among the sciences; the nature of the philosophic problems and scientific methods used.
430 Philosophy of Plato. (3). Survey of the Platonic writings with concentration on specific dialogues. Prerequisite: Phil. 121 or equivalent.

435 Philosophy of Aristotle. (3). Analysis of the Physics, Metaphysics, Categories, and other writings of Aristotle. Prerequisite: Phil. 121 or equivalent.

444 Modern Political Theory. (3). Same as Political Science 444. (See for description.)

470 Philosophy of Immanuel Kant. (3). A study of Kant's Critique of Pure Reason. Prerequisite: Phil. 121 or equivalent.

490 Seminar. (3). The instructor will announce the topic for study. May be repeated for credit. Prerequisite: consent of the instructor.

499 Directed Readings. (1-3). A course designed for the student interested in doing independent study and research in a special area of interest. Prerequisite: Departmental consent. May be repeated for credit.

Graduate Courses

500 Seminar. (3).


502 Problems in Metaphysics. (3). An analysis of the nature of reality, the inter-relation of things, matter, form, essence, existence, space, time, causality, and chance. Prerequisite: Departmental consent.

503 Mathematical Logic. (3). Elementary set theory; Boolean algebra; sentential calculus; quantification theory; axiom systems. Prerequisite: Departmental consent.

506 Problems in Ethical Theory. (3). An examination of moral and social ideals, and such concepts as "duty," "habit," "good," "right," and "ought" in relation to the doctrines of naturalism, utilitarianism, intuitionism, hedonism and emotivism. Prerequisite: Departmental consent.

575-578 Research and Theses. (2-2).

PHYSICS

MAJOR. The following courses are required for a physics major: General College Physics (either 123-124, or 243-244, or 123-244, or 243-124), 311, 333-334, and 339-340, Math. 349 and 450. For a Bachelor of Arts degree one upper division physics laboratory course, and six additional hours of physics are required. For a Bachelor of Science degree three upper division physics laboratory courses and twelve additional hours of physics are required. Also required for the Bachelor of Science degree are a reading knowledge, or two semesters, of German, Russian, or French; and at least three hours of other natural sciences and/or mathematics above 301.

MINOR. A minor in Physics consists of General College Physics (either 123-124, or 243-244, or 123-244, or 243-124) and at least six additional hours of physics.

Lower Division Courses

123-124 General College Physics. (5-5). 4R; 3L. First semester: mechanics, heat and sound. Second semester: electricity, light, and modern physics. Intended for students who have a working knowledge of algebra and trigonometry but who have had no calculus. Prerequisite for 123: high school trigonometry or Math. 112 or Math. 141. Prerequisite for 124: Physics 123 or 243.

225 Topics in Classical Physics. (2). Prerequisite: Physics 124 or 244. Corequisite: Math. 142, or 251.

243-244* General College Physics. (5-5). 4R; 3L. Intended for students who have had a semester of calculus. First semester: mechanics, heat and sound. Second semester: electricity, light and modern physics. Corequisite for 243: Math. 243, or 252. Prerequisite for 244: either Physics 243 or 123, and a grade of C or better in one of the following courses: Math, 243, or Math. 252.

243(E)-244(E) General College Physics Lectures. (4-4). FS 4R: 0L. The lecture portion of General College Physics 243-244. Open only to engineering students.

Upper Division Courses

300 Seminar. (1). Student reports on topics of general interest in physics. May be repeated for credit up to two hours. May not be counted for credit toward a minor in physics. Prerequisite: completion of, or concurrent enrollment in an upper division physics course.

301 Topics in Modern Physics. (3). An introduction to selected areas of modern physics with emphasis on the features of atomic, nuclear, and solid state physics which require modifications of classical physics for their explanation. Prerequisite: Physics 124 or 244. Corequisite: Math. 244, or 252.

320 & 321 Classical Physics Laboratory. (1-1). 2L. An intermediate laboratory with experiments drawn from the following areas of classical physics: mechanics, optics, electricity and magnetism. Corequisite: Physics 333 or 345.

333-334 Electricity and Magnetism. (3-3). Direct and alternating currents; electric and magnetic field theory including an introduction to Maxwell's electromagnetic wave theory. Prerequisite for 333: Physics 124 or 244 with a grade of C or better, and Math. 244 or 252 with a grade of C or better.

339-340 Elementary Mechanics. (3-3). Motion of a particle in one and several dimensions; motion of systems of particles; motion of rigid bodies; moving coordinate systems, mechanics of continuous media, and the Lagrangian Equations of Motion. Prerequisite for 339: Physics 124 or 244 and Math. 244 or 252. Prerequisite for 340: Physics 339 with a grade of C or better.

345 Optics. (4). Geometrical and physical optics. Image formation, thin and thick lenses, aberrations, interference, diffraction, polarization, electromagnetic theory of light. Prerequisite: Physics 124 or 244 and Math. 244 or 252.

350 Thermodynamics. (3). The laws of thermodynamics, thermodynamic potentials and applications; distribution functions, Boltzmann equation, transport phenomena and fluctuations; introduction to statistical mechanics and superconductivity. Prerequisite: Physics 124 or 244 and Math. 244 or 252.
389 Special Studies in Physics (1 or 2). May be repeated, but total credit may not exceed two hours. Prerequisite: Dept. consent.

392 Electronics. (4). 3H; 3L. Physical electronics, electron beams; semiconductor, vacuum and gaseous devices and their equivalent circuits; applications to the field of information processing, power modulation and simulation. Prerequisite: Physics 311 and 334 with grades of C or better.

421 & 422 Modern Physics Laboratory. (1-1). 3L. An advanced laboratory with experiments drawn from various areas of modern physics. In 421 the emphasis is on a determination of the fundamental constants of physics. 422 is devoted to experiments in nuclear physics. Prerequisite for either course Physics 311 and 329 or 321.

454-455 Modern Physics. (4-4). Special theory of relativity, quantum mechanics, harmonic oscillator, free particle, one-electron atom, radiative transitions, Pauli Principle, atomic spectroscopy, molecular spectra, solids and X-rays, properties of nuclei, particle scattering, radioactivity, nuclear stability, nuclear reactions, nuclear models, nuclear forces, particles and cosmic rays. Prerequisite: Math 349; Physics 311 and 340. 454 is a prerequisite for 455.

469 Introduction to Theoretical Physics. (3). Techniques of mathematical physics and their application to boundary value problems in mechanics, electricity and magnetism, wave motion, etc. Prerequisites: Physics 334, 340; Math. 349.

Graduate Courses


515-516 Introduction to Solid State Physics. (3-3). The basic knowledge of the nature and properties of the solid state including the structural, thermal, mechanical, electrical, and magnetic properties. Electron theory of metals, band theory of solids. Prerequisite: Physics 311 or department consent, and Math. 244, or 252.

521 Individual Readings. (1 to 3). Prerequisite: 30 hours of Physics and department consent. May be repeated for credit up to three hours.

529 Selected Topics in Physics. (2 or 3). May be repeated for credit up to six hours. Prerequisite: department consent.

533-534 Elementary Quantum Mechanics. (4-4). Elementary principles, formulations, and methods of quantum mechanics with special application to atomic and molecular phenomena. Prerequisite: Physics 340 or department consent, and Math. 349 and 450.

535-536 Classical Electricity and Magnetism. (3-3). Vector fields, field equations, stress and energy, static magnetic and electric fields, electromagnetic waves. Prerequisite: Physics 334 and Math. 349.

537-538 Nuclear Physics. (3-3). Emphasis on experimental nuclear physics. Properties of the nucleus, artificial and natural radioactivity, nuclear reactions, nuclear forces, binding energies, scattering phenomena. Prerequisite: Physics 455.


550 Seminar. (1). Review of current periodicals. Reports on student and faculty research. May be repeated for credit up to two hours. Prerequisite: 20 hours of physics.

551 Research. (1-3). May be repeated for credit up to six hours.

POLICE SCIENCE

The courses in police science are given by officers of the Wichita Police Department, the Legal Department of the City of Wichita, and the University faculty. The prerequisite for enrollment in any police science course is consent of the Chief of Police and the Dean of University College.

MAJOR. A major is available only to those who enrolled in the program prior to September 1962. Beginning September 1962, only a minor will count toward a four-year degree. (For two-year degree requirements, see page 33.)

MINOR. The minor consists of 21 hours in Police Science.

Lower Division Courses

106 Traffic Control. (3). Teaches the three phases of traffic control: engineering, education, and enforcement. Problems of traffic direction and regulation with special emphasis on safety.

113 Police Fundamentals. (3). Police rules and regulations, tactics, courtroom testimony, and report writing.

123 Contact and Interview Techniques. (3). A presentation of useful and practical techniques for the police officer to employ in daily contacts with all people to enable him to gain the most truthful information pertaining to the successful completion of his job. Starts with the new officer casually talking to citizens he meets in his daily routine and continues through all phases of interrogation up to and including the detective questioning suspects and the use of the Polygraph (lie detector).

124 Personal Identification. (3). Methods useful in the search for persons wanted, using general physical description, detailed characteristics of various parts of the human body, including fingerprints, their comparison and classification, as well as the use of habits, peculiarities, and habits of the individual.

221 Criminal Law. (3). Analysis and interpretation of criminal law, procedure and evidence, offenses and the elements of offenses; the laws of arrest, search, and seizure; power of law enforcement officers; development, admissibility, and presentation of evidence; testimony, demeanor, and procedure.

243 Special Investigation. (3). Techniques of investigation; identifying, collecting, and preserving evidence; sources of investigative information.

244 Introduction to Scientific Crime Detection. (3). Scientific aids as utilized by law enforcement agencies in the investigation of crimes. This includes their application in the field as well as the laboratory and their presentation in court.
245 Investigative Photography. (3). Photography as applied in law enforcement, both in the laboratory and the field. This includes the use of specialised equipment and diagraming the crime scene.

POLITICAL SCIENCE

MAJOR. A major consists of 30 hours. Requirements are as follows: Pol. Sci. 100 or 201, 345 or 444, 445; 3 hours each from Groups II, III, IV, and V; and enough additional hours to complete the 30-hour major requirement. (Note: Pol. Sci. 121 or 211, but not both, may count toward a major.)

MINOR. A minor consists of Pol. Sci. 100 or 201; 3 hours from Group I; and 9 additional hours, 6 of which must be upper division.

III. (Comparative Government) 227, 228, 410, 461, 462.
IV. (International Relations) 335, 336, 432, 434, 463.
V. (Public Administration) 311, 441, 473, 474, 480.
VI. (Special Courses) 150, 303, 400, 450, 499.

Lower Division Courses

100 Patterns of Politics. (3). An analysis of basic patterns of political systems and political behavior. Designed for the general student whether or not he desires to take advanced work in Political Science.

121 American Government. (3). The basic principles, structure and functions of government in our national society. (Formerly offered as Pol. Sci. 221.)

150 Workshop. (1-4). Prerequisite: consent of instructor.

211* American Democracy. (3). Currents in the development of American democracy with emphasis on the ideas and ideals which have contributed to the development of Americanism and the literature which deals with these currents of thought. Prerequisite: Sophomore standing.

219 State Government. (3). The role of the states in the federal system, and the patterns of politics and institutions in the several states. Particular attention to the State of Kansas. (Formerly offered as Pol. Sci. 319.) Prerequisite: Sophomore standing.

227 & 228* Comparative Government. (3). First semester: Great Britain and France; social, political, economic, and religious forces and their effects. Second semester: Germany and the USSR; their development, and the nature of the Soviet state since 1917. (Formerly offered as Pol. Sci. 311-312.) Prerequisite: Sophomore standing.

229 Government and Politics in Asia. (3). The breakdown of the "colonial" systems during and after World War II. Japan, China, India, Southeast Asia, Southwest Asia. Continuing political instability in Asia. Prerequisite: Sophomore standing.

Upper Division Courses

Pol. Sci. 100 or 201 is a prerequisite for all upper division courses except 303, 345, 400, 441, 444, 450 and 453.

303 Parliamentary Law and Procedure. (1). The parliamentary rules governing the order and conduct of meetings, methods of keeping and the writing of minutes and resolutions.

315-316* The Presidency, Congress, and Public Policy. (3-3). A descriptive and analytical study of the roles and interrelationships of the President, Congress, the bureaucracy, political parties, and interest groups in the formation and execution of public policy. Credit given upon completion of the year course only.

318 Political Parties. (3). The role of political parties in the American, political, decision-making process at the national, state and local levels. Prerequisite: Pol. Sci. 100 or 201, or consent.

321* Introduction to Public Administration. (3). The principles of administrative organization, types of executives, responsibility of administrative management, problems of organization, budget and fiscal control, and personnel management.


331 Soviet Politics and Government. (3). The social structure of the U.S.S.R.; federalism and the nationalities; industry, agriculture, trade unions, and cooperatives; policy-making organs; church and state; courts and prosecutors; factors of stability and instability; political power. Prerequisite: Pol. Sci. 330.

335 & 336* International Politics and Institutions. (3-3). First semester: an analysis of the controls governing the nation-state system; special consideration of such concepts as balance of power, collective security, propaganda and diplomacy. Second semester: emphasis on international law and the development of international organizations. Either 335 or 336, but not both, will be accepted toward a major in history.

345 Classical and Medieval Political Theory. (3). An analytical study of the major offerings of the Greek, Roman, and Feudal Periods. The contributions of Plato, Aristotle, and the Stoics are emphasized in the early period; the works of Seneca, Cicero, and the Roman Lawyers during the second; and the juridical impact of the feudal system and the philosophic legacy of the ecclesiastical writers during the third. (Formerly offered as Pol. Sci. 343 & 344.)

400 Seminar in Social Sciences. (3). An interdisciplinary course participated in by staff representatives of the departments of Economics, Political Science, Psychology, and Sociology. Following a study of the development of the social sciences, an interdisciplinary analysis of a contemporary social problem or institution will be undertaken. Prerequisite: consent of instructor.

420* Politics of Developing Areas. (3). A survey of the political systems in Latin America, Africa, the Middle East, South and Southeast Asia. Special attention to colonialism as a system, the effects of colonialism and patterns of emerging nations.

432* Policy Development in Foreign Relations. (3). The process of foreign policy-making in the American structure of government. Particular attention will be given to the problems of federalism and separation of powers in foreign policy development.

434* Problems in Foreign Policy. (3). Analysis of the alternative courses of action open to the United States in the present international political system.

*Prerequisite may be waived by department consent.
444 Modern Political Theory. (3). A description and analysis of the works of the principal political theorists of the modern state. Beginning with Machiavelli, the most persistent problems of early and modern nationalism are examined through the writings of Hobbes, Locke, Rousseau, Hegel, Burke, Marx, and others.

445 Seminar for Graduating Majors. (3). Discussion of significant classical and contemporary works in political science. Prerequisite: senior standing.

446 Seminar on Comparative Marxism. (3). An examination and evaluation of the ideas which have helped to shape the "ideologies" of the various party-states. The contributions of Marx, Engels, Kautsky, Bernstein, Luxemburg, Lenin, Trotsky, Stalin, Mao, Khrushchev, Tito, Togliatti, etc. Prerequisite: department consent.

449 Scope and Method of Political Science. (3). Scope and methods of political science and research techniques designed to prepare the student for graduate work in political science or administrative research. (Note: This course may be substituted for Pol. Sci. 445 with the consent of the department head.) Prerequisite: senior standing.

450 Workshop. (1-4). Prerequisite: consent of instructor.

451 Constitutional Law. (3). The course will utilize the case method and is concerned principally with the important and unique role of the Supreme Court as a policy-making body in the American system of government. Emphasis is placed on cases dealing with the separation of powers, federal system, and civil rights and liberties. (Not open to students with credit in Pol. Sci. 351 or 362.)

453 Law and Society. (3). An analysis of our legal system in operation. Includes study of legal philosophy and the ends of law, the basic characteristics and subject matter of law, and legal reasoning and process. The role of the legal system in society is examined through study of the concept of freedom of contract. (Note: Not open to students with prior credits in business law.)

454 The Judicial Process. (3). Focuses upon the behavior and policy-making role of the courts in the American system. Selected areas of case law are utilized to illustrate important aspects and problems of the judicial process. (Supplements F.S. 451.)

457 Problems in Political Theory. (3). Based on the rich inheritance of the political thought of ancient, medieval, and modern political philosophers, this course will consider significant political problems confronting twentieth century man. Prerequisite: Pol. Sci. 346 and 444.
537 Problems of Soviet Government Seminar. (3). Student will select one major problem area, research its political implications (stability and control) in the U.S.S.R. Prerequisite: department consent.

541 Seminar in Local Government. (3). An analysis of the organization, functions, and processes of municipal, county, school and voluntary organs; original research and intensive study of particular problems of Greater Wichita or other communities or urban units. Prerequisite: department consent.

544 & 545 Seminar in Political Theory. (3-3). Selected problems in the theory and practice of democracy. Prerequisite: department consent.

556 Seminar in American Politics and Institutions. (3). Analytical study, with emphasis on individual research, of selected topics in American political behavior. Prerequisite: department consent.

574 Internship. (2). For selected graduate students whose graduate emphasis is public administration. Prerequisite: department consent.

575 & 576 Thesis. (2-2).

PSYCHOLOGY

MAJOR. The major consists of a minimum of 24 hours and a maximum of 36 hours. Psych 111 is a prerequisite for all other courses. All Majors are required to take Psych 111, 112, 211, and 212. Students who expect to enter graduate work in psychology should take Psych 342 and 343. Other courses should be selected with the aid of the adviser. The minor for students majoring in Psychology will be required at the discretion of the adviser.

MINOR. The minor consists of 15 hours and should be fitted to the individual needs with the help of the student's adviser.

Non-Credit Course

60 Reading Improvement Techniques. (0) 2L. Designed for those students who seek to improve reading skills. Reading and study habits are diagnosed and practice toward improvement is provided. Prerequisite: approval of instructor.

Lower Division Courses

111 General Psychology. (3). An introduction to the general principles and areas of psychology.

112 General Psychology Laboratory. (2). 4L. Introduction to scientific method in psychology. Prerequisite: Psych 111; concurrent enrollment preferred.

211 & 212 Advanced General Psychology. (3-3). A more intensive treatment of the topics of General Psychology. Prerequisite: Psych 111.

215 Industrial Psychology. (3). An introduction to the psychological aspects of industry. Prerequisite: Psych 111.

246 Social Psychology. (3). A psychological study of the individual in the social situation. Prerequisite: Psych 111.

260 Child Psychology. (3). The infant and child with special reference to their behavioral development. Prerequisite: Psych 111.

275 Psychology of Personality. (3). Theoretical concepts, factors in development, and methods of assessing personality. Prerequisite: Psych 111.

Upper Division Courses

342* Psychological Statistics. (3). Emphasizes basic quantitative techniques in measurement and evaluation of behavior. Prerequisite: 10 hrs. of psychology.

343* Experimental Psychology. (2). Laboratory study of behavior stressing experimental design and research techniques. Prerequisite: Psych 111 and 112.

346 Advanced Social Psychology. (3). An intensive review of a selected contemporary issue in social psychology. Prerequisite: Psych 246.

350* Physiological Psychology. (3). Physiological factors in behavior. Prerequisite: Psych 111 and 211.

360* Psychology Tutorial Seminar. (3). Selected topics in psychology. (May be repeated for a maximum of 6 hours credit.) Prerequisite: average of B in psychology courses which must include Psy 211 and 212.

401* Introduction to Clinical Psychology. (3). (Same as SPG 440). Application of psychological principles to the field of problem behavior. Prerequisite: Psychology 275, 444, and 465.

410* History of Psychology. (3). Psychological theory and experimentation from ancient to modern times. Prerequisite: 10 hours of Psychology.

444 Introduction to Psychopathology. (3). Individual differences and their relation to "normal" behavior. Prerequisite: Psych 111.

450 Advanced Industrial Psychology. (3). A detailed analysis of special-interest areas in industrial psychology. Prerequisites: Psych 215 and 342, or consent of instructor.

453 Problems of Psychology. (3). Seminar dealing with fundamental psychological principles aimed at a general orientation in psychology. Prerequisite: 16 hours of psychology.

454 Psychological Testing and Measurement. (3). A survey of the psychological foundation of tests and the interpretation and evaluation of test findings. Prerequisite: Psych 111, 112, 212, 342 or consent of instructor.

456* Special Investigation. (1-3). Upon consultation with the instructor concerned, advanced students with adequate preparation may undertake original research in psychological problems. (May be repeated for a maximum of 6 hours credit.) Prerequisite 10 hours of Psychology and consent of instructor.


475* Advanced Psychology of Personality. (3). More intensive treatment of the topics of Psychology of Personality. Prerequisite: Psych. 275.

498* Introduction to Psychoanalytic Theory. (3). A consideration of the theory and practice of Freud's system, its variants and derivatives. Prerequisite: Psych. 444.

Graduate Courses

502 Seminar in Clinical Psychology. (2). Individual papers and discussion aimed at a basic orientation toward clinical theory and practice. Prerequisite: Psych. 401 and consent of instructor.

513 Intelligence Testing. (3). Theory and method of individual intelligence tests. Prerequisite: consent of instructor.

514 Projective Techniques. (3). Theory and method of projective analysis of personality. Prerequisite: consent of instructor.

515-516 Clinical Practice. (2-2). Practicum in clinical techniques. May be repeated for various phases of

*With sufficient reason a student may apply for departmental consent to waive course prerequisites.
clinical practice. Maximum credit 6 hours. Prerequisite: consent of instructor.

520 Graduate Research Seminar. (3). Advanced experimental procedures. Required of all graduate majors in psychology. Prerequisite: consent of instructor.

542 Advanced Psychological Measurement. (3). Design, analysis, and evaluation of behavioral research data. Required of all graduate majors in psychology. Prerequisite: consent of instructor.

549 & 550 Seminar in Psychology. (3-3). Intensive survey of basic areas in psychology with stress on recent developments. Required of all graduate majors in psychology. Consent of instructor.

560 Systematic Psychology. (3). A critical survey of systems of psychology. Prerequisite: consent of instructor.


RELIGIOUS EDUCATION

The department of religious education offers a general survey of religious life and thought, of Biblical history and literature, and their significance in the life of today.

The courses in this department are not primarily professional in character. Religion is recognized as one of the great phenomena of human life, and religious literatures are studied for the light they shed on political and social movements and as cultural background.

MAJOR. The primary goal of the Department of Religious Education is to help students reach a better understanding of the role of religion in human culture and experience. Therefore, it is by design that the department offers a "combined major" consisting of no less than 24 hours; 15 in Religious Education and 9 in a related field. Religious Education 333, 446, and 475 are required.

Of the 12 upper division hours required in the major field at least 9 must be in Religious Education.

MINOR. The minor consists of 15 hours in Religious Education courses, chosen in consultation with the head of the department.

Lower Division Courses


130 Introduction to Religion. (3). Designed to acquaint the introductory student with some major varieties of religious history, belief, practice and problems, Eastern and Western, with emphasis on the West. Closed to upper division students.

230 Old Testament Interpretation. (2). An attempt to understand the people and the problems of the Old Testament. Emphasis will be on the Pentateuch, the prophets, and an understanding of major Biblical concepts.

240 New Testament Interpretation. (2). The letters of Paul, the Johannine literature and history outside the Synoptic Gospels will be emphasized. Such major Biblical concepts as sin, grace, savior, church, will be examined critically in terms of the Biblical text.

260 Western Religious Thought. (3). An historical and critical study of the main currents of thought in the West. Emphasis will be on primary forces and personalities which gave background shape and development to the Hebrew-Christian tradition.

Upper Division Courses

301-302 Ancient Mediterranean World. (3). (Same as History 301-302.)

305 New Testament Greek. (2). (Same as Greek 332.)

323-324 Medieval History. (2-2). (Same as History 323-324.)

333 Comparative Religion. (3). A rapid survey of the religious experiences of people in their efforts to secure and conserve the essential values of life.

336 History of Religions 1. (3). Emphasis on historical insights useful for understanding religion in its cultural setting and the development of major religious concepts.

337 History of Religions 2. (3). Continuation of 336, 1.

340 Current Religious Issues. (2). Emphasis will be on important questions which affect the American scene such as the ecumenical movement, recent court decisions, varieties of current religious dissent, protest, relevance.

360 Religious Thought in the 19th and 20th Century. (3). A study through the writings of representative thinkers of major trends, developments and movements such as the Social Gospel, Modernist-Fundamentalist Controversy, the Ecumenical Movement, "the Catholic-Protestant dialogue."

399 The Bible as Literature. (3). (Same as English 399.)

424 Reformation. (2). (Same as History 424.)

446 Philosophy of Religion. (3). An examination of some basic religious problems such as the nature and grounds of religious belief, religious language, the existence and nature of God, human immortality, the problem of evil.

466 Biblical Ethics and Social Problems. (3). An examination of ways in which the Bible has been read for insight into moral problems in contemporary society. The writings of social analysts, theologians and various religious bodies will be read. Problem areas of special concern will be marriage and family, economic life, politics, race relations, international relations.

475 Independent Work. (1-3). Especially designed for those working for a combined major. A major project relating the work of two departments is required.

Graduate Courses

500 Seminar. (3).

575-576 Research and Thesis. (2-2).

SOCIOLOGY AND ANTHROPOLOGY

MAJOR. A major in sociology and anthropology consists of at least 30 hours, including Soc. 111, 445 or 446, and Anthro. 124. Other courses may be elected from either the sociology or anthropology curriculum. Certain courses in related departments not to exceed 6 hours, when they meet the particular needs of the student, may be counted on the major. With the exception of S.W. 211, social work courses do not count toward the major.

Students wishing to secure a minor in the Department should elect one of the following fields:

MINOR IN SOCIOLOGY AND ANTHROPOLOGY. At least 15 hours in the two fields, including Soc. 111 and Anthro. 124.

MINOR IN ANTHROPOLOGY. At least 15 hours of anthropology including Anthro. 124 and 125.
MINOR IN SOCIOLOGY. At least 15 hours including Soc. 111.

SOCIOLOGY

Lower Division Courses

111 Introductory Sociology. (3). Human group life, man's adjustment in groups, the characteristics of various groups, the processes of social organization and social change.

210* Sociology of Childhood. (2). Group influences upon the child in contemporary American culture and their implications for society. Prerequisite: Soc. 111.

213* Sociology of Aging. (2). Social aspects of an aging population, including extent of social participation and various community programs for the aging. Prerequisite: Soc. 111.

226 Race Relations. (3). The nature of race; ethnic groups confused with races; interrelations of ethnic groups in the United States and other countries; processes of change; action programs. Prerequisite: Soc. 111.

Upper Division Courses

314* Comparative Family Systems. (3). Ethnographic and historical studies of family systems; range of variation; vestiges of older systems in contemporary United States. Prerequisite Soc. 111.

315 The American Family. (3). Analysis of American family behavior including the selection of marriage partners, the husband-wife, parent-child relationships, and the relation of those patterns to behavior to other aspects of American society. Prerequisite: Soc. 111.

320 Social Behavior and Control. (3). The meaning of social control, the means of social control, social institutions as agents of social control, propaganda, public opinion, and mass media of communication. Prerequisite: Soc. 111.

321 Sociology of Religion. (3). The function and role of religious belief and religious organization in human societies with special reference to American society. Relation of religious belief and organization to other aspects of the social structure and to social change. Prerequisite: Soc. 111 or Anthro. 124.

330 Social Stratification. (2). An analysis of status, class, and caste in various societies, especially American society. The relationship of stratification to the various social institutions. Prerequisite: Soc. 111 or Anthro. 125.


333 Rural Sociology. (3). The sociology of rural life - its social groups, institutions, and social relations. Prerequisite: Soc. 111.

334 Urban Sociology. (3). Urban population, urban organization, urban institutions, and programs of city planning. Prerequisite: Soc. 111.

335 Industrial Sociology. (3). The work group as a social group, social organization of the work plant, and social factors affecting the worker. Prerequisite: Soc. 111.

339* Juvenile Delinquency. (2). The factors related to juvenile delinquency and the measures of treatment and prevention. Prerequisite: Soc. 111.

340* Criminology. (2). The extent and nature of criminal behavior and societal reactions to it. Prerequisite: Soc. 111.

341* Contemporary Corrections. (2). Historical and contemporary programs for the treatment of offenders, viewed as societal reactions to criminal behavior. Prerequisite: Soc. 339 or 340.

400 Seminar in Social Sciences. (3). An interdisciplinary course participated in by staff representatives of the departments of Economics, Political Science, Psychology, and Sociology. Following a study of the development of the social sciences, an interdisciplinary analysis of a contemporary social problem or institution will be undertaken. Prerequisite: consent of instructor.

410 Introduction to Scientific Method in Sociology. (3). The development of the problem, techniques of data collection, analysis and presentation. Lab work in the form of a completed project required. Prerequisite: 6 hours of Sociology.

445* History of Social Thought. (3). Social theory from ancient to modern times. Prerequisite: 8 hours of sociology.

446* Principles and Concepts of Sociology. (3). Critical evaluation of major principles and concepts, their derivation and relationship to systematic theory. Prerequisite: 8 hours of sociology.

470 Independent Reading. (1 to 3). Prerequisite: 12 hours of sociology and department consent. May be repeated for credit not to exceed a total of 6 hours.

Graduate Courses

500 Research Methods in Sociology. (2 or 3). The application of research methods to sociological data. Includes research design, collection of data, development of questionnaires, scales and indices, interviewing methods, analysis of data, and summary. Prerequisite: department consent.

512 Social Disorganization. (2). Changing frames of reference in study of social problems, with special attention to disorganization of groups and institutions. Prerequisite: 15 hours of sociology and department consent.

515 Seminar on the Family. (2). Review of recent research on the family and the theoretical implications thereof. Prerequisite: department consent.

520 Seminar in Social Movements. (2). Analysis of the elements in social movements as factors in social and cultural change. Prerequisite: department consent.

526 Intergroup Relations. (2). Relations between various types of groups, especially ethnic and religious. Review of relevant research. Prerequisite: department consent.

531 Seminar in Population Research. (1 to 3). Analysis of methods of studying population phenomena. Individual research on special aspects of population. Prerequisite: department consent.

534 Seminar in Urban Sociology. (1 to 3). Studies of Wichita with application to general theories of urban sociology. Prerequisite: department consent.

545 Advanced Reading in Sociological Theory. (3). A careful and critical evaluation of recent systematic writings in the field. Prerequisite: department consent.

547 Recent Developments in Sociology. (2). Major issues, new theories, new techniques of research, new areas.

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of research, new applications. Prerequisite: 15 hours of Sociology and department consent.

575-576 Thesis. (2-2).

ANTHROPOLOGY

Lower Division Courses

124 General Anthropology. (3). An introduction to the fields of physical anthropology, cultural anthropology, archaeology and linguistics, analysis of the concepts of society and culture with special emphasis on nonliterate peoples of the world.

125 Cultural Anthropology. (3). The meaning of culture, its significance for human beings, its diverse forms among peoples of the world, past and present. Prerequisite: Soc. 111 or Anthro. 124.

223 The Development of Man. (3). The study of man's biological development from prehistoric to modern times. Prerequisite: Anthro. 124.

224 Old World Prehistory. (2). The development of culture and society from early Paleolithic times through the rise of Bronze Age civilizations. Prerequisite: Anthro. 124.

Upper Division Courses

309 Indians of the Eastern United States. (3). A survey of the cultures of aboriginal peoples east of the Mississippi River. Prerequisite: Anthro. 124 or 125.

310 Indians of the West. (3). A survey of the cultures of aboriginal peoples of the Great Plains, Southwest, and Pacific Coast areas. Prerequisite: Anthro. 124 or 125.

323 Primitive Folklore. (3). Survey of the oral literature of Africa, the Americas, and the Pacific. The role of myths, tales, riddles and proverbs in reflecting a people's values and world view. Prerequisite: Anthro. 124.

327 Primitive Religion. (2). An examination of various concepts concerning the realm of the supernatural as held by primitive people. Relates such religious and magical beliefs — and the resultant practices — to the larger patterns of cultural context. Prerequisite: Anthro. 124.

336 North American Archeology I. (3). The main archeological cultures of western U. S., Canada, and Alaska and the theories of their origin and development. Prerequisite: Anthro. 124 or department consent.

337 North American Archeology II. (3). Analysis of Woodland, Missisippi, Hopewell, and other archeological cultures of the eastern United States. Prerequisite: Anthro. 124 or department consent.

360 Primitive Law and Government. (3). Organizational structures and processes which maintain social order in pre-industrial societies. Prerequisite: Anthro. 124.

436 Seminar in Archeology and Ethno-History. (3). Special area and theory problems in an historical approach to culture. Prerequisite: 5 hours of Anthro.

449 Project in Educational Anthropology. (3). A course dealing with the basic concepts of anthropology and their application to social science units in elementary and secondary grades. Explores the nature of sub-cultures in American society and the problems they pose for the classroom teacher. A course for education majors and graduate students. Also listed as Ed. Ed. 449. Cannot be used to meet requirements of the core curriculum for Sociology and Anthropology.

470. Independent Reading. (1-3).

490 Field Methods in Anthropology. (3-8). A course which instructs the student in archeological and ethnological field methods through actual participation in a field research program. The project depends upon the specific summer session and varies from year to year. Prerequisite: 8 hours of Anthro.

Graduate Courses

505 Museum Methods. (3). An introduction to museum techniques, exhibit design and evaluation, preservation of collections, the role of the museum in teaching anthropology. Department consent; may be repeated once.

575-576 Thesis. (2-2).

SOCIAL WORK

Lower Division Courses

211 Introduction to Social Work. (3). The development of social work organizations, specialized fields of social work, and qualifications required for positions in social work.

Upper Division Courses

355 Social Welfare Interviewing. (2). The interview as a process in social work; including establishment of rapport, relationship to the agency, and referral as seen in case material.

356 Social Group Leadership. (2). The processes involved in group leadership, including identification with the agency, group leader interaction, and group development, illustrated with case materials.

375 Public Social Security Programs. (3). Social security law and agencies for its implementation with consideration of the social implications.

412 Introduction to Public Health and Welfare Institutions. (2). The organization, structure, function, and interrelationships of modern public health and welfare agencies and institutions.

413 Introduction to Community Organization. (3). The relationship of public and private agencies; local, state, and national services; establishment of new services; coordination, planning, and financing community services.

SPANISH

MAJOR. A major in Spanish consists of 24 hours beyond courses 111-112, or their equivalent, and must include Span. 230. Any courses offered by the History or Economics Departments, dealing with Spain or Latin-America, are strongly recommended for all majors. It is also recommended that Spanish majors choose a minor in some other foreign language if they plan to teach foreign languages.

MINOR. A minor in Spanish consists of a minimum of 11 hours beyond the 112 level, to include Spanish 222, 225, and 230 and one upper division course, exclusive of 315-316.
Lower Division Courses


223-224 Selected Spanish Readings, (3-3). Intensive reading of Latin American and Spanish literary works. Outside readings and reports. Prerequisite: Span. 112 or two high school units of Spanish.

225-226 Intermediate Conversation, (2-2). Prerequisite: FS Span. 112 or 2-3 units of high school Spanish.

230 Intermediate Spanish Grammar and Composition. F (3). Prerequisite: Span. 113 or equivalent.

Upper Division Courses

Span. 224 is a prerequisite for all upper division literature courses.

315 & 316 Major Topics, (1-2; 1-2). Literary reports, special work in pronunciation, commercial Spanish, or problems in teaching Spanish. May be repeated for credit but total credit not to exceed 4 hours. Prerequisite: Span. 224 or 226 or department consent.

325 Advanced Composition and Conversation, (3). Prerequisite: Span. 226 or 230 or department consent.

331 & 332 Survey of Spanish Literature, (3-3). First semester: 18th, 19th, and 20th centuries. Second semester: the Cid through the Golden Age. Alternate years.

421 Main Currents of Spanish-American Literature, (3). Intensive reading of representative works from the Colonial period to the present. Alternate years.

422 The Spanish Drama, (3). Intensive reading of representative dramas of important periods. Alternate years.

423 Seminar in Spanish, (1-5). Special studies in (1) Spanish language, (2) Spanish and Spanish American literature, (3) Spanish and Spanish American culture and civilization, or (4) methods of teaching Spanish in the elementary and secondary schools. May be repeated for credit.

Graduate Courses

500 Introduction to Research, (2). Methods of investigation, preparation of bibliographies, collection and organization of materials, and techniques of literary criticism.


505 & 506 Directed Readings, (1-2; 1-2). Directed Readings will vary according to the student's preparation. Preparation of reports, literary critiques, special projects in linguistics.

531 Seminar in Spanish Literature, (3). The work in this course will be related to the special interests and needs of the students. The early period, Classicism, Romanticism, Realism, Modernism, Modern Literature and Contemporary Literature will be treated as separate areas. May be repeated for credit.

532 Seminar in Spanish-American Literature, (3). The work in this course will be related to the special interests and needs of the students. The Colonial period, Modernism, the short story, the essay, and the Contemporary Novel will be treated as separate areas. May be repeated for credit.


SPEECH

Major. A minimum of 33 hours including Speech 111, 221, 248, plus specialization in area A, B, C, or D below:


B. (Theatre) Speech 243, 244, 253, 259, 343, 359, 423, 424, 444, 445.


D. (General) Speech 114, 212, 228, 243, 244, 259, 313, 423 or 424, 445.

Students completing option A or D must participate in intercollegiate forensics for a minimum of two semesters prior to the senior year.

Option D is strongly recommended for those preparing to teach, although option A or B may be acceptable upon approval of the Department.

Broadcast-Journalism Combined Major: Speech 111, 114, 214, 215, 224, 314 or 315, 323, 324, 332, 403, 406, and Journalism 226, 232, 327, 428.

Minor. A minimum of 15 hours selected with the approval of the Department of Speech.

Lower Division Courses

101 & 102, 201 & 202 Debate, (1-1). *Research for debates, participation in 30 or more full length debates per year (15 of which must be intercollegiate competition), and debate squad meetings. Prerequisite: department consent.

111 Extemporaneous Speaking, (2). Analysis of audience, selection of subject, choice of ideas, finding and testing supporting materials, organization, and delivery.

114 Broadcasting and the Citizen, (3). Organization, structure, history, social implications of the broadcasting industry.

212 Persuasive Speaking, (2). Training in influencing human behavior in socially acceptable ways via the spoken word. Prerequisite: Speech 111.

214 & 215 Radio Workshop, (1-1). Relation of theory to application at KMUW-FM.

221 Oral Interpretation, (3). The development of the mental, vocal, and vocalic techniques essential to the interpretation of literature.

223 Phonetics, (2). The physical properties of speech: the formation of sounds, combination of sounds into word patterns, dialectical variety and transcribing of sounds of American English by use of International Phonetic Alphabet.

224 Radio and TV Production, (3). Production and direction of radio and TV programs, laboratory work, KMUW-FM.

225 Business and Professional Speaking, (2). Prerequisite: Speech 111 or department consent. (Offered only at night.)

*Maximum credit in DEBATE 4 hours; not count toward major.
Principles of Group Discussion. (3). Development of reflective thinking, group leadership, and effective group participation. Prerequisite: Speech 111 or department consent.

Radio-Television Writing. (3). Writing formats, commercials, continuity, and drama for Radio and Television.

Acting I. (3). Emphasis on the internal techniques of acting, on characterization, and on the actor's analysis of the play and the role.

Stagecraft. (3). R; L arr. Theory and practice of making, painting, and using scenery for the stage. Practical work on University Theatre productions.

Costuming and Make-up. (2). R; L arr. Historical survey of dress from the standpoint of the costume designer; principles of costume construction; basic theories and practices of stage make-up. Practical work on University Theatre productions.

Directing I. (3). R; L arr. Basic theories and principles of stage directing; problems of producing the play with practical experience gained by use of the project method. Prerequisite: 243 or consent.

Upper Division Courses

Debate. (1-1). *Research for debates, participation in 30 or more full length debates per year (15 or which must be intercollegiate competition), and debate squad meetings. Prerequisite: department consent.

Argumentation and Debate. (3). The principles of reasoned discourse. The practices of scholastic forensics for prospective secondary teachers. Essentials of parliamentary procedure. Prerequisite: department consent.

Radio Workshop. (1-1). Relation of theory to application at KMUW-FM.

Radio and TV Reporting and Newswriting. (3). (See Journalism 323.)

Radio and TV Newscasting. (3). (See Journalism S 324.)

Radio and TV Programming. (2). Planning, developing, scheduling, based upon audience and market analysis, program ratings, principles of evaluation and criticism.

Acting II. (2). Utilization in scenes of the method gained in 243, with emphasis on styles of acting and on comedy technique. Prerequisite: Acting 243.

Directing II. (2). R; L arr. Staging and rehearsal techniques, with emphasis on the problems of the period and stylized play. Prerequisite: Speech 259 or department consent.

Television Workshop. (2). R; L arr. The theories, tools, and techniques of television production; studio work as a member of a TV production crew.

Radio and TV Station Management. (3). The organization and management of radio and television station; administrative, programming, technical and sales problems, physical facilities. Prerequisite: department consent.

Regulation and Responsibility in Broadcasting. (3). Government and broadcasting relations; review of basic radio law; emphasis on responsibilities of broadcast license. Open to non-broadcast majors.

Development of the Theatre I. (3). The history of theatrical activity as a social institution and an art form, from the beginning to the eighteenth century. Representative plays, methods of staging, and theatrical architecture of various periods.

Development of the Theatre II. (3). From the eighteenth century to the present.

American Public Address. (3). A detailed study of notable American speakers and their public utterances; their impact on the political, economic, and social history of this nation from colonial times to the present.

Development of Rhetorical Theory. (3). From the Greeks to the Moderns.

Advanced Public Address. (3). Theory and practice in the various forms of platform speaking for the academically mature student. Includes such special forms as the after-dinner speech, speeches of good will, tribute, keynote, and courtesy. Prerequisite: Speech 212.

Theory of Mass Persuasion. (3). An analysis of the techniques used in the mass media with special emphasis on the use of spoken language.

Scene Design. (2). R; L arr. Fundamentals of scene design. Practical work on University Theatre productions. Prerequisite: 244 with grade of C or better.

Stage Lighting. (2). R; L arr. Lighting equipment; light design and its relation to scenery design; emphasis upon the problems in the high school, college, church, etc. Practical work on University Theatre productions. Prerequisite: Speech 244 with a grade of C or better.

Seminar. (3). Projects and readings in all areas of the Speech field to reveal the essential unity therein and to develop an integrated philosophy of speech education. Includes basic concepts of evaluating (criticism) all forms of oral communication, including drama. Prerequisite: senior standing.

Workshops in Speech. (2-4). (See Sec. Ed. 450.)
Undergraduate Objectives: The College of Business Administration and Industry has as its primary objective the training of young men and women for active, intelligent, and responsible participation in business and community life. Such participation requires that the graduate have an understanding of the world and society in which we live, an understanding of our business and industrial community, and an understanding of the role of the business administrator.

Regardless of the area of business in which he may operate or the level on which he moves, each administrator has one thing in common with all other administrators. He must make and execute decisions. Training in administration must enable the student to develop a way of thinking or habitual thought process whereby he can make valid business judgments. The student must be taught the process of assembling, ordering, weighing facts, and reaching a conclusion. He must develop the courage and foresight to turn that conclusion into a decision, and he must learn to work with people to turn that decision into reality.

An understanding of our world and society provides the student with a foundation upon which to base his progress as an administrator and assures the graduate of a sense of responsibility for the consequences of his actions. Further, if the student is to learn to make valid business judgments, he also must acquire an understanding of the basic fundamental areas of business and the business process. Still further, it is not sufficient to train the student only in the basic areas of business or in the basic process of business and decision making. While it is not the goal of the College to train the student for his first, or second, position in the business community, it is necessary that the student be able to handle given areas of business information beyond the level of basic principles. And, since an administrator, particularly on the junior and middle levels, works within a specific area of business, the student should have an opportunity for limited specialization. Such specialization enables him to handle specific assignments as an administrator and to make immediate contributions to his organization upon graduation.

The detailed undergraduate objectives of the College of Business Administration and Industry are, then:

1. To provide the student with an understanding of our world and society, to develop the student's intellectual capacities, and to develop an understanding of his rights and responsibilities as an active member of society.
2. To instill in the student the habit of original and orderly thinking.
3. To equip the student with the fundamental business skills and to develop his understanding of the business process.
4. To train the student to make valid business decisions and to work with people in the execution of those decisions.

5. To provide the student with a degree of specialized skill or knowledge in a selected area of business.

Graduate Programs: The primary objective of the programs leading to the degrees of Master of Business Administration and Master of Science in Business Administration is to assist men and women who desire careers either in private business or teaching business administration to further develop those qualities, attitudes, abilities, skills, and understandings which constitute a foundation for future growth in their chosen field.

Other Programs: The College is charged with the responsibility of adding to the total body of knowledge about business administration and economics. Further, the College serves the community and state by providing continuing educational programs and other specialized services.

The undergraduate curricula of the College lead to the degrees of Bachelor of Business Administration and Bachelor of Science in Business Administration. A two-year program in secretarial training leads to an Associate of Applied Science degree. The College is divided into the Departments of Accounting, Administration, Economics and Secretarial Training.

For graduate programs see the Graduate School Bulletin.

REQUIREMENTS — Admission and Retention

Entering freshmen interested in business administration are admitted to the University College and must meet the general entrance requirements of the University, see page 13. The program of high school preparation recommended for students entering the University College is given on page 31.

Students may enter the College of Business Administration from the University College, other degree-granting colleges within the University, or other universities and colleges, provided they have completed 24 semester credit hours, have earned a credit point index as follows: 24-63 hours, 1.700; 64 or more hours, 2.000, and are not on academic probation.

A student whose cumulative grade point index falls below the College of Business admission requirements shall be placed on College of Business probation for the next term in which he enrolls. A student on probation may not enroll for more than 12 semester hours. Probation is removed when the cumulative grade point index reaches the required level. The student remains on probation if he earns at least a 2.000 index in the term during which he is on probation and his cumulative grade point index does not yet meet the minimum standards.

A student on probation shall be suspended from the College of Business if he fails to meet either of the requirements of his probationary status. When suspended, a student will not be permitted to re-enroll in the College of Business for a period of 18 weeks. Readmission after a lapse of 18 weeks is not automatic. Students must apply to the College of Business Exceptions Committee to be considered for readmission on final probationary status.
COURSE WORK

1. In addition to fulfilling the general requirements of the University for graduation, each student shall elect at least six hours from the departments represented in Groups I through IV of the prescribed fields of study exclusive of courses in economics and subject to the limitations set forth below.

2. Candidates for either of the two baccalaureate degrees offered by the College shall complete at least fifty-six semester hours of courses offered outside the College. In addition, such students shall complete at least fifty semester hours of courses offered by the College.

To assure maximum distribution of course work, the following limitations are in effect: Courses in industrial education or industrial arts, elementary education, library science, police science, and physical education (other than the 4 required hours of service courses) shall not count within the 124 semester hours required for graduation.

3. Required courses for the degree of Bachelor of Business Administration are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 121, 122, Discrete Mathematics*</td>
<td>6</td>
</tr>
<tr>
<td>Acctg. 213, Introductory Accounting</td>
<td>3</td>
</tr>
<tr>
<td>Eco. 221, 222, Principles of Economics</td>
<td>6</td>
</tr>
<tr>
<td>Eco. 248, Introductory Business Statistics</td>
<td>2</td>
</tr>
<tr>
<td>Eco. 340, Money, Banking and Public Policy</td>
<td>3</td>
</tr>
<tr>
<td>Either Eco. 414, Government Regulation of Economic Activity, or Eco. 421, Intermediate Economic Theory</td>
<td>3</td>
</tr>
<tr>
<td>Adm. 261, Principles of Administration</td>
<td>3</td>
</tr>
<tr>
<td>Adm. 265, Seminar A, Communication and Human Relations</td>
<td>2</td>
</tr>
<tr>
<td>Adm. 266 Seminar B, Communication and Human Relations</td>
<td>2</td>
</tr>
<tr>
<td>Adm. 300, Marketing I</td>
<td>3</td>
</tr>
<tr>
<td>Adm. 312, Law and Society</td>
<td>3</td>
</tr>
<tr>
<td>Adm. 343, Finance</td>
<td>4</td>
</tr>
<tr>
<td>Adm. 351, Production I</td>
<td>3</td>
</tr>
</tbody>
</table>

In addition to the required courses, each candidate for the B.B.A. degree shall satisfy the requirements of one of the following curricular emphases.

CURRICULAR EMPHASES

Accounting

Within the 124 hours required for graduation a minimum of 24 hours of accounting is required and a maximum of 30 hours of accounting is allowed.

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acctg. 235, Cost</td>
<td>5</td>
</tr>
<tr>
<td>Acctg. 315, Intermediate</td>
<td>5</td>
</tr>
<tr>
<td>Acctg. 345, Tax</td>
<td>5</td>
</tr>
<tr>
<td>Acctg. 403, Advanced</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 413, Auditing</td>
<td>3</td>
</tr>
<tr>
<td>Adm. 432-433, Law of Commercial Transactions and Business Associations</td>
<td>5</td>
</tr>
</tbody>
</table>

Administration

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adm. 271, Quantitative Methods and Research</td>
<td>4</td>
</tr>
<tr>
<td>Adm. 274, Control</td>
<td>5</td>
</tr>
<tr>
<td>Adm. 301, Marketing II</td>
<td>2-3</td>
</tr>
<tr>
<td>Adm. 352, Production II</td>
<td>2-3</td>
</tr>
<tr>
<td>Adm. 366, Seminar C, Information and Decision Processes</td>
<td>2</td>
</tr>
<tr>
<td>Adm. 367, Seminar D, Business Ethics and Social Responsibility</td>
<td>2</td>
</tr>
<tr>
<td>Adm. 451-452, Administrative Policy I &amp; II</td>
<td>5</td>
</tr>
</tbody>
</table>

Students desiring to elect hours within the department of administration may organize specialized programs in marketing, industrial management, finance and general management.

Economics

Within the 124 hours required for graduation a minimum of 24 hours in economics is required and a maximum of 30 hours in economics is allowed.

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Eco. 414, Gov't Regulation of Eco. Activity</td>
<td>3</td>
</tr>
<tr>
<td>*Eco. 421, Intermediate Economic Theory</td>
<td>3</td>
</tr>
<tr>
<td>Eco. 455, History of Economic Thought</td>
<td>2</td>
</tr>
<tr>
<td>Eco. 456, History of Economic Thought</td>
<td>2</td>
</tr>
<tr>
<td>Adm. 274, Control</td>
<td>5</td>
</tr>
<tr>
<td>Electives in Economics</td>
<td>3-9</td>
</tr>
</tbody>
</table>

4. Required courses for the degree of Bachelor of Science in Business Administration:

Candidates for the degree of Bachelor of Science in Business Administration shall complete a total of sixty-two semester hours of Liberal Arts courses and shall satisfy the requirements of paragraph 1 and 2 preceding. The maximum lower division credit from the Department of Secretarial Training shall be 17-20 hours.

*Students taking an emphasis in the Department of Economics may substitute Math. 141, Algebra and Trigonometry, for Math 121-122, upon department consent.

*One will be taken to satisfy College of Business Administration requirements.
### Additional required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 121, 122, Discrete Mathematics*</td>
<td>6</td>
</tr>
<tr>
<td>Acctg. 213 &amp; 223, Introductory Accounting</td>
<td>6</td>
</tr>
<tr>
<td>Eco. 221, 222, Principles of Economics</td>
<td>6</td>
</tr>
<tr>
<td>Eco. 248, Introductory Business Statistics</td>
<td>2</td>
</tr>
<tr>
<td>Eco. 414, Government Regulation of Economic Activity</td>
<td>3</td>
</tr>
<tr>
<td>Adm. 261, Principles of Administration</td>
<td>3</td>
</tr>
<tr>
<td>Adm. 265, Seminar A, Communication and Human Relations</td>
<td>2</td>
</tr>
<tr>
<td>Adm. 266 Seminar B, Communication and Human Relations</td>
<td>2</td>
</tr>
<tr>
<td>Adm. 300, Marketing I</td>
<td>3</td>
</tr>
<tr>
<td>Adm. 332, Law and Society</td>
<td>3</td>
</tr>
<tr>
<td>Adm. 343, Finance</td>
<td>4</td>
</tr>
<tr>
<td>Adm. 351, Production I</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sec. Tr. 133, 138, 237, Typewriting</strong></td>
<td>6-8</td>
</tr>
<tr>
<td>Sec. Tr. 201, Secretarial Office Machines</td>
<td>1</td>
</tr>
<tr>
<td>Sec. Tr. 202, Calculating Machines</td>
<td>1</td>
</tr>
<tr>
<td>Sec. Tr. 231, 234, 240, Shorthand</td>
<td>4-9</td>
</tr>
<tr>
<td>Sec. Tr. 136, 203, Records Management and Office Procedures</td>
<td>4</td>
</tr>
<tr>
<td>Sec. Tr. 345, Transcription</td>
<td>3</td>
</tr>
<tr>
<td>Sec. Tr. 440, Office Management</td>
<td>2</td>
</tr>
</tbody>
</table>

5. **Associate of Applied Science Degree**

The Associate of Applied Science degree provides an opportunity for secretarial preparation of a high quality in a college atmosphere with a view to attaining the Certified Professional Secretary status.

The requirements for the degree are as follows:

- Engl. 111, 248; Eco. 221, 222; Acctg. 213, 223; Adm. 120, or 261, or 322; Sec. Tr. 136, 138, 201, 202, 203, 231, 234, 237, and 240 or 346 (138, 231, and 234 may be taken in high school); science or Math. 131*; six hours of humanities; nine hours of general university requirements as outlined on p. 18; plus sufficient free electives to equal 64 hours. Thirty hours and 60 credit points shall be earned in residence. Of the required 64 hours, not more than one fourth of D work will count on the Associate of Applied Science degree. No credit is given on this degree for Sec. Tr. 133. If taken in high school, no credit is given for Sec. Tr. 251; free electives shall be substituted for this course. Credit in industrial education or industrial arts, elementary education, library science, police science, and physical education shall not count within the 64 semester hours required for graduation. Twelve of the last 15 hours must be taken in residence.

6. Business Education.

Students interested in preparing to teach business subjects in high school enroll the first year in the University College and then transfer to the College of Education. All students in the University who receive a certificate to teach must meet the requirements as outlined on page 73.

### ACCOUNTING

**MAJOR.** A major in Accounting may be taken only in the College of Business Administration and Industry. Majors must complete the prescribed courses required by the College of Business Administration and Industry as set forth on pp. 64, including Acctg. 213, 235, 315, 345, 403, and 413. A minimum of 24 semester hours of Accounting is required for an emphasis (or major) in Accounting. Students taking more than 30 semester hours of Accounting will have such excess hours above 30 counted as excess hours above the 124 semester hours needed for graduation. Students who desire and are eligible may earn graduate credit for such excess hours by properly enrolling the last semester before attaining the BBA degree, if they need ten hours or less to complete the BBA degree. (See page 15).

**MINOR.** A minor in Accounting may be taken in the College of Liberal Arts and Sciences. A minimum of 15 hours must be taken, including Acctg. 213, 235, 315, and two additional upper division hours of accounting.

#### Certificate of Certified Public Accountant

Candidates for the Certified Public Accountant Certificate in Kansas will be admitted to the semi-annual examination under any one of these three admission requirements: (1) proof of college degree, including 30 or more semester hours of accounting, business law, economics, business, and finance, of which at least 20 semester hours must be in accounting; (2) proof of a college degree and completion of three years of public accounting experience; (3) proof of graduation from high school, or an equivalent education, and completion of three years of public accounting experience. The Certificate of Certified Public Accountant will be awarded to successful candidates in the examination only after completion of two years of public accounting experience for those qualifying under (1) and (3) above. Those qualifying under (2) will receive the Certificate at once. The examination is given in auditing, business law, accounting theory, and accounting practice. It is held each May and November. Questions of the American Institute of Certified Public Accountants' Uniform Examination are used. A candidate who passes two of the four parts is "conditioned" and will be considered to have passed the examination if he successfully completes the other two parts at any time during the next five years. The examination is administered by the Kansas State Board of Accountancy.

Graduates with an Accounting major qualify to sit for the Kansas C.P.A. Examination; however, the department strongly recommends additional work beyond 30 hrs. of Accounting, to best prepare the student to enter the profession as well as to pass the examination. Such added work may be taken after graduation either in the Division of Cont. Education or in the Graduate School. The M.S. Degree in Accounting currently being offered is strongly recommended for this purpose.

#### Lower Division Courses

**213 Introductory Accounting.** (3). Basic accounting procedures in the complete accounting cycle for service and merchandising companies under the three basic forms of business organization, and an introduction to financial statement analysis. Prerequisite: Sophomore standing or department consent.
223 Introductory Accounting. (3). A continuation of the subject matter introduced in Acctg. 213, payroll accounting, and an introduction to data processing. Prerequisite: Acctg. 213 with a grade of C or better. Not open to those with an emphasis in accounting, administration, or economics.

235 Cost Accounting. (5). The study of accounting for manufacturing operations with emphasis on the accumulation and interpretation of cost data using job order, process, standard, and direct costing techniques. Includes the use of accumulated cost data in cost-volume-profit analysis and profit planning for managerial decision making. Prerequisite: Acctg. 213 with a grade of C or better.

Upper Division Courses

315 Intermediate. (5). A review of basic procedures and a thorough, in depth, discussion of valuation and recording procedures for balance sheet items and of income determination. Prerequisite: Acctg. 235 or concurrent enrollment.

345 Tax Accounting. (5). Study of federal and state law and regulations relating to personal, business and fiduciary income tax returns. Primary emphasis will be placed on the federal income tax. Assignments will be made in the use of the various tax services and reporters. Prerequisite: Acctg. 213.


413 Auditing Principles. (3). Basic auditing principles, procedures, and reports. Prerequisite: Acctg. 315.

423 Advanced II. (3). Accounting for fiduciaries — statement of affairs, receiverships, statement of realization and liquidation, estates and trusts. Accounting for branches and subsidiaries. Consolidated financial statements, including those involving foreign branches and subsidiaries. Prerequisite: Acctg. 315.

432 Governmental. (2). Principles and practice for state, county, city and subdivisions thereof, as well as general institutional accounting principles and practices for fund accounting systems. Prerequisite: Acctg. 213 or Adm. 274.

433 Data Processing and Accounting Systems. (3). The study of the format and content of accounting systems reflecting the application of electronic computers to the processing of business data accumulated in an accounting system. Includes basic computer programming. Prerequisite: Acctg. 235 or Adm. 274 or department consent.

453 Accounting Data for Decision Making. (3). Application of accounting data to financial policy decisions, profit planning and control, quantitative analysis of financial data, capital budgeting, price level changes. Emphasis is on the application of the accounting data accumulated. Prerequisite: Acctg. 315 or Adm. 274, or department consent.

463 C.P.A. Preparation. (3). An integrating course to aid preparation of the candidate for the Uniform C.P.A. Examination in all areas except law and taxes. Prerequisite: 24 hours of accounting.

473 Tax Accounting. (3). See Acctg. 345 for description. Prerequisite: Acctg. 213. Not open to students with credit for Acctg. 345 or its equivalent.

Graduate Courses

503 Directed Readings in Accounting. (1). Individual assignments in sampling the best current literature; written and oral reports. Prerequisite: 24 hrs. of accounting.

511 History of Accounting. (3). Accounting Methods and theories from the viewpoint of their historical development through the centuries in various parts of the world. The interrelationship between accounting procedures and socio-economic conditions is stressed. Prerequisite: 15 hrs. of accounting.

512 Contemporary Accounting Theory. (3). An advanced discussion of the framework of theory underlying current accounting thinking and procedures; a study of its development and the influence of professional organizations in this development. Areas of theoretical controversy are emphasized. Prerequisite: 15 hours of accounting.

523 Controllership. (3). Principles, duties, and functions of a controller; use of accounting reports and data in managing and controlling financial and production policies of a business. Prerequisite: 15 hrs. of accounting.

533 Professional Auditing Techniques and Practice. (3). Professional aspects of auditing practice and procedures. Techniques of working paper preparation, report writing, and professional ethics are stressed. Prerequisite: Acctg. 415.

550 Accounting Research and Writing. (3). An advanced seminar offering opportunity for oral discussion and written reports on matters of current interest in diverse areas of the accounting field. A major course objective is to develop the student's ability for independent research, as well as presentation and defense of his findings. Prerequisite: 24 hours of accounting.


ADMINISTRATION

The requirements for an emphasis in Administration on a Bachelor of Business Administration degree are listed on page 64.

Students should attempt to arrange their courses according to the following schedule:

(a) freshman level: Math. 121-122.

(b) sophomore level: Acctg. 213 and Adm. 274, Eco. 221-222, Eco. 248 and Adm. 271, Adm. 281, Adm. 265-266.

(c) junior level: Adm. 300-301, Adm. 332, Adm. 343, Adm. 351-352, Adm. 365-367, Eco. 340.

(d) senior level: Adm. 451-452, Eco. 414 or 421, and professional electives.

Students transferring from other schools or other programs must be especially careful in starting certain of the course sequences at the earliest possible dates, or graduation may be delayed. These sequences, such as Adm. 265-266, 366-367, require four semesters to complete and usually are scheduled to begin in the fall semester.
Lower Division Courses

120 Introduction to Business. (3). The concept and function of business management in the capitalistic economic system. Includes the development of concepts of management, analysis and action.

261 Principles of Administration. (3). An analysis of the administrator and the environment in which he operates. Prerequisite: sophomore standing.

265-266 Seminars A-B. Communication and Human Relations. (2-2). Systematic study of human relations theories and concepts, communication theory and research, with functional training in the communication skills. Prerequisite: sophomore standing.

271 Quantitative Methods and Research. (4). A combination of quantitative tools of analysis and research methods in business. Concerned with elementary research procedures, statistics, and modern quantitative methods from the point of view of management's direction and use of these methods. Prerequisite: Sophomore standing, Math. 122 or equivalent, and concurrent enrollment in Eco. 248 or department consent.

274 Control. (5). Emphasis on management's use of accounting information. Includes analysis and interpretation of financial statements, budgeting, funds flow, concepts of cost analysis, and capital investment. Prerequisites: Acc. 103 or Acc. 213 and sophomore standing.

Upper Division Courses

300* Marketing I. (3). A description and analysis of the structure of the marketing system in the American economy in terms of the institutions and functions of the system. Prerequisite: Adm. 261 or concurrent enrollment in 261, or department consent.

361* Marketing II. (3). An investigation of the factors affecting management of the major policy areas of marketing in the firm. Prerequisite: Adm. 300.

382 Law and Society. (3). An analysis of our legal system in operation. Includes legal philosophy and the ends of law, the basic characteristics and subject matter of law, and legal reasoning and process. The role of the legal system in society is examined through study of the concept of freedom of contract.

343 Finance. (4). Presents corporate organization, types of securities, short, intermediate, and long-term capital, and securities exchanges and markets. Includes financial planning and control, forecasting, budgeting, sources of funds, and negotiating. Emphasis is placed on a managerial approach. Prerequisites: Acc. 104 or 213 or Adm. 264, or department consent.

351* Production I. (3). The concepts and procedures involved in the production function. Prerequisite: Adm. 261 or concurrent enrollment in 261, and Adm. 264 or Acc. 194 (effective September 1969: Adm. 274 or Acc. 223 or Acc. 233) or department consent.

352* Production II. (3). Further consideration of the relationships of production to operating and policy problems of the business firm. Prerequisite: Adm. 361.

366 Seminar C — Information and Decision Processes. (2). Decision-making, information system concepts and theories, sources of information, theories of knowledge, and research methodology. Prerequisite: Adm. 266 or department consent. Students who have completed Adm. 266 may be admitted for upper division credit.

367 Seminar D — Business Ethics and Social Responsibility. (2). Administrative leadership, business statesmanship and business ethics, studies in comparative administration. Prerequisite: Adm. 366 or department consent.

403 Marketing Analysis. (3). The application of analytical techniques to product design and development, demand analysis, sales forecasting, pricing, and costs. Includes data sources and research procedures. Prerequisite: Adm. 300 or department consent.

404 Marketing Policies and Problems. (3). Problems of managing marketing programs and organizations. Includes current advanced marketing literature and research on selected marketing topics. Prerequisite: Adm. 300 or department consent.

412 Retailing I. (3). Types of retail institutions and unique problems associated with managing retail operations. Prerequisite: Adm. 300 or department consent.

413 Retailing II. (3). An analysis of current problems in retail store management and operation with emphasis on sales promotion techniques. Prerequisite: Adm. 300 or department consent.

432* Law of Commercial Transactions. (3). Transfer of ownership, payment, transportation, product liability, and public policy are treated as legal aspects of a single transaction, the sale of goods. Prerequisite: Adm. 332.


441 Investments. (3). Industrial securities and government bonds, the work of investment banking houses, the elements of investment. Prerequisite: Adm. 343.

442 Financial Management. (3). The problems and operations for which the financial officer is responsible, emphasizing controversial aspects of financial analysis. Prerequisite: Adm. 343 and Adm. 274 or 364 or 8 hours of accounting, or department consent.

443 Management of Financial Institutions. (3). Consideration of the management and operation of financial institutions, including commercial banks, savings and loan institutions, and consumer credit companies. Covers problems and policies regarding liquidity, reserves, earning assets, loans, income, and expense. Prerequisite: Eco. 340, Adm. 343, or department consent.

*Adm. 300-361, 321-322, 432-433, 481-482 are offered as combined courses for 3 hours credit.
451 Administrative Policy I. (3). An integration of all aspects of business administration in the analysis of policy development. Prerequisite: Adm. 301, 343, and 352, or department consent.

452 Administrative Policy II. (3). An integration of all aspects of business administration in making decisions for policy development. Prerequisite: Adm. 451 or department consent.

453 Labor Relations. (3). Designed to present the philosophy underlying labor legislation, and the function of collective bargaining in labor-management relationships.

455 Materials Management. (3). A consideration of the factors of procurement, inventory control and materials handling in the factory environment. Prerequisite: Adm. 351.

460 Seminar. (1-5). May be repeated for credit.

467 Organizational Behavior. (3). Seminar in organizational theory and methods of human organization research. Prerequisite: Adm. 261 and Adm. 266.

Graduate Courses

501 Advanced Marketing. (3). An investigation and analysis of marketing literature and ideas, and the development of a conceptual framework for the management of the marketing process by the firm and the role of marketing in our economy.

509 Seminar in Marketing. (3). Research in and analysis of selected marketing problems.

532 Law and Society. (3). An analysis of our legal system in operation. Includes legal philosophy and the ends of law, the basic characteristics and subject matter of law, and legal reasoning and process. The role of the legal system in society is examined through study of the concept of freedom of contract. Prerequisite: Consent.

551 Current Management Problems. (3). A study of selected industries and research projects to define the current problems facing policy makers in those industries. Prerequisite: Adm. 261.

552 Advanced Management Analysis. (3). Analysis of complex problems of management organization and policy development. Prerequisite: Adm. 261.

553 The Philosophy of Management. (3). Concentrated readings and research to define the relation of management leadership to our society. Prerequisite: Adm. 261.

554 Management Seminar. (3). Prerequisite: department consent.

560 Directed Studies. (1-5). Prerequisite: Consent of coordinator of graduate studies in business.

564 Control. (3). Concepts of cost analysis, return on investment analysis, budget preparation, and utilization of quantitative data to analyze management problems. Prerequisite: Consent.

567 Organizational Behavior. (1-3). Seminar in organization theory and methods of human organization research. Prerequisite: Consent.

575-576 Thesis. (2-2).

ECONOMICS

MAJOR. The economics major in the College of Liberal Arts consists of 30 hours. Eco. 221, 222, 248, 340, 421, 455, and 456 are required. Three semester hours of principles of accounting may be included in the major.

MINOR: A minor in Economics in the College of Liberal Arts consists of 15 hours and must include Eco. 221.

For economics requirements of the Bachelor's degree in Business Administration see page 64.

Lower Division Courses


221-222 Principles of Economics. (3-3). National income analysis, the theory of employment, public policy, and economic stabilization. The allocation of resources and the pricing of the national product under market conditions of competition, monopoly, and monopolistic competition. Problems and policies of international trade. Prerequisite: sophomore standing or department consent.


Upper Division Courses

315* Economic Development of Europe. (3). Economic development from the manor to the present time. Basic changes in economic structure resulting from organized banking and the increasing use of manufactured goods. The exploitation of resources and the concomitant international rivalry for markets and economic survival.

316* Economic Development of Latin America. (2). Current problems and policies. Case studies of selected countries.

330 Economics of Consumption. (3). Theories of consumption, consumer's position in the economic system, relation to general welfare and culture, standards of living, and family expenditures. Prerequisite: Eco. 221 or 222.

349* Money, Banking and Public Policy. (3). Evolution of modern money systems and commercial banking, monetary and income theory. Role of Monetary-Fiscal Policy in promoting domestic and international economic stability.

350* Labor Economics. (3). Development of the Labor movement with emphasis upon problems, structural organization, and impact upon economic stability.
Seminar in Social Sciences. (3). An interdisciplinary course participated in by staff representatives of the departments of Economics, Political Science, Psychology, and Sociology. Following a study of the development of the social sciences, an interdisciplinary analysis of a contemporary social problem or institution will be undertaken. Prerequisite: consent of instructor.

Government Regulation of Economic Activity. (3). A critical appraisal of the objectives and results of government policy and practice in controlling economic activity. Prerequisite: Eco. 222 or department consent.


Comparative Economic Systems. (2-2). The economics of capitalism, socialism, communism, and fascism.

Business Cycles. (3). The description of cyclical behavior, an analysis of business cycle theories, and a study of proposed methods of control.

Intermediate Business Statistics. (3). Statistical inference, simple correlation, multiple correlation, and partial correlation as tools of analysis in economics and business. Prerequisite: Eco. 248 or consent of department.

International Economics. (2). An analysis of the principles underlying international trade. Attention is directed to recent historical developments and to current international economic problems and policies.

Public Finance. (2). An analysis of public expenditures, public revenues, and fiscal policy. Prerequisite: Eco. 222 or department consent.

History of Economic Thought. (2-2). A critical investigation of the economic thought in the leading nations of the occidental world together with the most important relations of economic thought to philosophy and environmental conditions. Prerequisite: Eco. 222.

Directed Study. (1 to 3). Prerequisite: 12 hours of economics with a departmental credit point index of 2.5.

Graduate Courses

Managerial Economics. (3). A review of theoretical and analytical tools of economics, useful in decision-making by private managers; empirical studies, and cases. Prerequisite: Economics 221.

Introduction to Research in the Social Sciences. (2). Philosophy of research, collection and organization of material, and technique and style in writing, with emphasis on the common approach of the social sciences. Prerequisite: department consent.

Monetary Theory. (3). An intensive examination of the monetary aspects of economic insubility. Prerequisite: Eco. 340 or department consent.

Theory of Employment. (3). An appraisal of neo-classical, Keynesian, and other employment theories and of the impact of major economic factors upon the level of employment. Prerequisite: Eco. 447 or department consent.

Seminar in International Economics. (3). Theory and problems of international economic organizations. Prerequisite: Eco. 449 or department consent.

Federal Fiscal Policy. (3). The impact of fiscal practices of the Treasury and other governmental agencies upon the level of economic activity. Prerequisite: Eco. 455 or department consent.

Directed Study. (1-3). Prerequisite: 12 hours of economics with a departmental credit point index of 2.5.

Advanced Economic Theory Seminar. (1-3). Comprehensive investigation of student-selected topics from contemporary economic theory. Prerequisite: 30 hours of Economics and consent of instructor.

Thesis Research. (2).

Thesis. (2).

SECRETARIAL TRAINING

MAJOR. No major is offered in the department but courses in secretarial training count on a major for the secretarial emphasis in the College of Business Administration and on the business education major and minor in the College of Education. See page 65 and page 73.

MINOR. There is no minor offered in the department.

Secretarial training courses are open to students who are enrolled for a minimum of 9 hours in the University. A college graduate is permitted to enroll for shorthand and typewriting with the consent of the department and the dean. For exception to these rules, a written application must be made to the head of the department for consideration with the dean of the college concerned. The facilities available determine the enrollment. The decision as to the availability of equipment is made by the head of the department and the Dean of the College of Business Administration.

Students are not permitted to audit courses in the Department of Secretarial Training. No credit is given toward graduation for repetition of first year shorthand or typewriting taken in high school even though a grade is recorded in the course.

Transfer students in shorthand and typewriting who wish to enroll in the College of Business Administration and Industry, or in the College of Education for the major or minor in business education, will be classified in accordance with the results of placement tests.

Terminal courses in both shorthand and typewriting must be taken at Wichita State University by students with the secretarial emphasis or with a major or minor in business education; therefore, no credit is transferred for technical typewriting and technical shorthand. For transfer of credit in courses other than shorthand and typewriting the courses must be commensurate with those given at Wichita State University. The credit allowed for any course will be no more than the credit permitted for the corresponding course at Wichita State University, and under no circumstances will a transfer student be allowed to receive total hours in secretarial training greater than Wichita State University permits.

Lower Division Courses

Beginning Typewriting. (2). 3R. Correct fingering and mechanical operation of a typewriter; introduction to business forms. No credit is given to students with a unit in high school typewriting. Credit earned in this course does not apply to the Bachelor of Science in Business Administration Degree, or the Asso-
136 **Records Management.** (2). All basic filing systems. Prerequisite: Sec. Tr. 133, or one year high school typing, or department consent. Can not have credit for both Sec. Tr. 233 and 136.

138 **Advanced Typewriting.** (3). Stress is placed on correct letter forms, tabulation, manuscript forms, typing problems, etc., typed at a high speed accurately. Prerequisite: Sec. Tr. 133 or one year of high school typing, or department consent.

F138a-S138b* **Advanced Typewriting.** (2-1). 2L. Class meets one double period for a year. Prerequisite: Sec. Tr. 133, or one unit of high school typing, or department consent.

201 **Secretarial Office Machines.** (1). 3L. Designed to familiarize students with office machines, including transcribing machines, electric typewriters, and other secretarial office appliances. Some part-time office experience. Prerequisite: Sec. Tr. 237, or department consent.

202 **Calculating Machines.** (1). 3L. Designed to familiarize students with adding machines, rotary-driven calculators, printing calculators, and key punch machines. Prerequisite: department consent.

203 **Office Procedures and Organization.** (2). A study of the various secretarial procedures in a modern office. Prerequisite: Sec. Tr. 234 or 234b and sophomore standing, or department consent. Can not have credit for both Sec. Tr. 233 and 203.

231 **Elementary Shorthand.** (3). 5RCL. Theory of Gregg shorthand. No credit given to student with one unit of high school shorthand. Prerequisite: Sec. Tr. 133 or concurrent enrollment, or one unit of high school typewriting, or department consent.

F231a-S231b* **Elementary Shorthand.** (2-2). 2½L. Two meetings of one and one-half periods each, meeting each week for a year. No credit given to student with one unit of high school shorthand. Prerequisite: Sec. Tr. 133, one unit of high school typewriting, or department consent.

234 **Advanced Shorthand.** (1 or 3). 2L or 3R; 2L. Review of Gregg theory. Emphasis on advanced dictation and mailable transcripts. Credit allocated on basis of placement tests for admission. Prerequisite: Sec. Tr. 231 with a grade of C or better, or department consent.

234a-234b* **Advanced Shorthand.** (2-2). 2½L. Two meetings each week of one and one-half periods per meeting for a year. Closed to those with credit in Sec. Tr. 232 or 232ab. Prerequisite: Sec. Tr. 231 or 231b with a grade of C or better, or department consent.

237 **Technical Typewriting.** (3). The most recent letter forms used in business, difficult tabulating projects, legal typewriting, advanced typewriting problems timed, etc. Emphasis is placed on accuracy at a high speed of typing. Prerequisite: Sec. Tr. 138 or 138b, or two units secretarial training in high school, or department consent.

F237a-S237b* **Technical Typewriting.** (1-2). 2L. One meeting of two periods each week for a year. Prerequisite: Sec. Tr. 138 or 138b, or department consent.

240 **Technical Shorthand.** (3). 3R, 1L. Advanced dictation. Emphasis on technical vocabularies and office practices. Prerequisite: Sec. Tr. 234 or 234b with a grade of C or better, and Sec. Tr. 237, or 237b, and 36 hours and 72 grade points, or department consent.

Upper Division Courses

345 **Transcription.** (3). 2R, 2L. Emphasis on transcribing advanced shorthand notes with speed, accuracy, and correct form. Prerequisite: Sec. Tr. 240 with a grade of C or better, or department consent.

440 **Office Management.** (2). Problems of office organization and management from the supervisory point of view; use of manuals; distribution of authority and responsibility; hiring, training, and promoting employees; quality and quantity of efficiency. Prerequisite: 15 hours of accounting and administration.

460 **Directed Studies.** (1-5).

*Duplicate credit will not be given for -a and -b courses of the same number.
THE COLLEGE OF EDUCATION

JACKSON O. POWELL, Ph.D., Dean

The principal purpose of the College of Education is to provide pre-service programs for elementary and secondary teachers. There are other curricular patterns available within the college, but these two are paramount in importance. In addition to minimum curricula for certification as teachers in many teaching fields there are offered programs in school administration, special education, and in student personnel. These latter, however, are intended essentially to serve in continuing the professional preparation of classroom teachers.

The curricula listed in the sections that follow offer an organization of courses which gives opportunity for systematic study. They are oriented from the notion that understanding of self and one's world are necessary bases for professional growth. They are arranged to permit the development of (a) understandings of the culture characteristic of a democratic society and education's place within it; (b) a philosophy of education consistent with living within this society; (c) an adequate professional preparation and the opportunity to relate content to the problems of living; (d) knowledge of human growth and development; and (e) skills in the application of principles of human learning and adjustment. These are competencies expected of effective teachers.

ACCREDITATION AND CERTIFICATION

The College of Education is accredited by all the pertinent agencies which accredit the University. Its accreditation by the State Board of Education permits it to recommend to that body the awarding of appropriate teachers' certificates without examination.

Within the college, programs are available leading to the baccalaureate degree and to state teachers' certificates at either the elementary or secondary level. Through the department of education within the school of graduate studies, there are course sequences leading to the Master of Arts in Education, the Master of Education, the Master of Science Education degrees, and the Specialists in Education degree. Through the department of Logopedics, the doctorate in Philosophy can be earned. Included in these graduate programs are the requirements for Certification for Elementary Principals, Secondary Principals, Supervisory Personnel, Public School Administrators and School Counselors. (For specific graduate programs, see the Graduate Bulletin.)

The State Board of Education regulates the standards for all teaching certificates. As the minimum requirements change, the curricula provided in this catalogue change accordingly. It is possible to comply with all of the subject and field requirements recognized in the certificate regulations except that only selected emphases in the field of Special Education are possible.

REQUIREMENTS

Admission

Candidates for admission to the College of Education must have met the general entrance requirements of the University, see p. 13, and have fulfilled conditions for transferring from the University College:

1. The completion of 24 hours.
2. A cumulative grade point index of 1.700.
   a. Students transferring with 64 or more semester hours must have earned a 1.90 grade point average.
3. A grade of C or higher in English 111 or a statement of proficiency from the Department of English.

Admission to this college, however, is tentative, and is not to be construed as approval for one of the teacher education programs. To be admitted as a candidate for a state teacher's certificate approval by the Admissions Committee of the College of Education must be gained. Application to this committee and qualification by it must be accomplished during enrollment in the course Fd. Ed. 232, Introduction to the Study of Education. Eligibility to enroll in subsequent courses of the professional sequences is determined in this course. These provisions and the requirements below apply as well to teacher candidates enrolled in any other college of the University.

Baccalaureate Requirements

There are several sets of requirements that must be met to achieve graduation. These apply not only to undergraduates in the College of Education who are seeking the degree Bachelor of Arts in Education but to all who seek the institution's recommendation for a teaching certificate. There are certain differences planned for those who would teach the Fine Arts and these differences are described in the Fine Arts section of this catalog.

All prospective graduates must satisfy the general requirements of the University as they are distributed in section I below; must complete one of the professional sequences as set out in sections II, III, and IV below; and must fulfill the teaching specialty emphases of two programs as specified in the Teaching Field section which follows. Only those specialties listed among the combined curricula and departmental majors and minors in that section may be counted.

An active candidate for teacher qualification must maintain a 1.900 grade average. He may be placed on probation for one semester until that average has been achieved. Admission into the student teaching semester requires a grade point average of 2.25.

I. The following general program is required of all teacher candidates.

Requirement 1. The Natural

<table>
<thead>
<tr>
<th>Sciences</th>
<th>12 semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>A minimum of four hours must be a laboratory science. Must include courses from both the biological and physical science fields, after which mathematics may be elected to reach 12 hours.</td>
<td></td>
</tr>
</tbody>
</table>
Requirement 2. Communications 8 semester hours
Engl. 111 and one from 211, 225, 311, 312, 313, 314, 315, 6 hrs., and Sp. 111, 2 hrs. If a proficiency examination is passed in English 111, a second course from those listed in English must be taken; if Speech 111 is waived a second course from Speech 228 or 212 must be taken.

Requirement 3. The
Humanities .............. 12 semester hours
History, 3 hrs.; Literature, English Language or Foreign, 6 hrs.; Electives from Humanities 102, Fine Arts Literature or Appreciation; or American Civilization or Philosophy or Religious Education as listed in the University General Requirements.

Requirement 4. The Social
Sciences .................. 12 semester hours
Psych. 111, 3 hrs.; Economics, Political Science, and Sociology or Anthropology, 9 hrs. (from at least two of the three departments).

Requirement 5. Physical
Activities .................. 4 semester hours
Air Science, Military Science, Physical Education, Marching Band, of which at least two hours must be in one field.

Requirement 6. Electives ...... 8 semester hours
A. Secondary Education Majors
   8 semester hours
   From Requirements 1, 2, 3, 4, but not to exceed 10 hours in any one department.
B. Elementary Education Majors
   2 semester hours

II. The following program is required of all who plan to qualify for the standard secondary teaching certificate, except those enrolling in III below.

A. Study in a major field normally taught in secondary schools.

B. Study in at least one minor field usually taught in high schools. In no case will the minor consist of less than 15 semester hours.

C. Complete the following sequence in professional education:

Group 1. Educational Psychology ........ 6 semester hours
   Ed. Psych. 333 and 433*.

Group 2. Foundations of Education ........ 6 semester hours
   Fd. Ed. 232 and 428*.

Group 3. Secondary Education ........ 11 semester hours
   Sec. Ed. 442* and/or 445* and 447*.

D. Electives to complete the minimum program of 124 hours. (See p. 16 for regulations concerning upper division courses.)

*The Student Teaching Semester.

III. Those planning to teach in the junior high school will qualify for the standard secondary teaching certificate as follows:

A. Study in the "Junior high school core" in lieu of a major field and B of Group II, above.

Group 1. The American
   Culture ........ 40 semester hours
   Engl. 251, 252, 315; Sp. 221, 228, and 114 or 243; American Civ. 111 and 112 or Hist. 102; Soc. 111; Art 161;
   Pol. Sci. 121; Hist. 131-132; and 8 hours from: Phil. 410; Pol. Sci. 451, 452; Anthro. 305; Engl. 301, 302, 303, 461; Hist. 331, 332, 431, 432, 433. (These may overlap I above.)

Group 2. The Physical
   World ........ 22 semester hours
   Intermediate algebra, and geometry completed on high school or college level; Math 121 and 122 or Math. 373 and 374; Sci. Sur. 101 and Biology 101; one laboratory science course of no fewer than 4 hours, though the total shall be 15 hours — from the sciences; P.E. 212 or 225, and 210 or 400. (These may overlap I above.)

B. See II C above.

IV. The following program is required of all who plan to qualify for the degree elementary teaching certificate.

A. Complete the following sequence in professional education.

Group 1. Foundation Courses ........ 7 semester hours
   Ed. Psych. 233, Fd. Ed. 252

Group 2. Curriculum and Instruction ........ 10 semester hours
   El. Ed. 320, 321

Group 3. Student Teaching ........ 13 semester hours
   Logopedics majors. Elem. Ed. 447 (7 semester hours and 6 semester hours may be selected from Log. 417, 440, or 441. To this El. Ed. 451 should be added, or Sec. Ed. 447 (3 hrs.) substituted for those qualified.

Group 4. Special Content ........ 15 semester hours
   Mathematics 373-374 (applies on University Core also) and 9 hours from: El. Ed. 216; Geog. 125, 201; Music 200; P.E. 225; Art. Ed. 241.
   Students majoring in Logopedics are not subject to this requirement.

B. Elect one academic minor (Except those majoring in Logopedics). See page 75 for minors.

C. Electives sufficient to complete the minimum program of 124 semester hours. (See page 18 for regulations concerning upper division courses.)

V. Prospective teachers in the specialized fields of art, music, and special education are subject to certain departmental requirements. Majors in these curricula must also complete I and the pro-
fessional field requirements of IIC above.** School Psychology requires five years.

VI. One prerequisite to student teaching which is outlined in the required introductory course is that candidates present evidence of having worked with agencies serving children and youth.

TEACHING FIELDS

Selection of teaching fields for the senior high school must be made with an academic counselor from the College of Education. Most fields require a minimum of 24 hours preparation for teaching. University departments may have other requirements. The teaching field or major should be declared not later than the beginning of the junior year.

The major may consist of not more than one-third of the total program counted toward the degree. It generally is made up of not fewer than 30 semester hours. (For specific exceptions see mathematics and language.)

The usual teaching assignment involves a combination of subjects more or less closely related. For this reason intensive study in the combined disciplines described below is offered in lieu of a major. Where a specific curriculum is chosen for major study, the requirements of the College of Liberal Arts in that subject will prevail.

Combined Curricula

Combined Curricula: The first objective of each of these curricula is to prepare the prospective teacher broadly for secondary teaching. At the same time it is desired that each student achieve as nearly as possible the minimum requirements for graduate work in a specified field. In some cases it will be necessary to take an additional one or two courses to reach the latter objective.

All combined majors in secondary education (junior and senior high) which require 50 or more semester hours for completion count as a combined major and minor. Note that they need not complete another minor.

Business Education

Major

Teachers of the business subjects in Class A schools of Kansas are required to have 24 semester hours in the field with the equivalent of 6 semester hours in each subject taught, of which at least two semester hours must be resident college credit in other than the beginning course.

Required

Economics 221 and 222; Administration 261, 300, 332, and 343; Secretarial Training 138, 237. In addition, one of the options below must be elected. This major consists of a minimum of 36 hours with at least 10 hours of upper-division work.

Option A: Certification to teach business subjects including shorthand.
Secretarial Training 231 and 234 or Secretarial Training 234 and 240, Accounting 213 and 223.

Option B: Certification to teach business subjects except shorthand.
Accounting 213, Accounting 235 (Cost Accounting), Accounting 315 (Intermediate Accounting).

A student may major in Business Education and minor in either Accounting or Economics. The requirement for a minor within a field major totals 51 hours. If a student elects a minor in Accounting and option B, he will be required to elect 6 additional hours in the three remaining departments in the College of Business Administration. The business education counselor is to be consulted concerning the acceptability of any transfer course.

Minor

Accounting 213, 223; Economics 221; Secretarial Training 138, 237; and 9 hours from Accounting, Administration, Economics, or Shorthand, of which one course must be upper division.

Industrial Education

Industrial Arts

Minimum requirements for persons planning to teach Industrial Arts in Standard schools are 24 hours in the field with 6 or more hours in each subject taught.

Trades and Industries

Students who have had adequate industrial experience, as specified in the State Plan for Vocational Education, may specialize as teachers of trades and industries.

Technical Education

Students preparing to become teachers of technical subjects must have industrial experience, as specified in the State Plan for Vocational Education, and must have a minimum of 18 hours in Natural Sciences.

Major

Required

Ind. Ed. 111, 120, 121, 319, and 401. In addition, at least 3 of the following options must be selected and a minimum of 2 hours must be completed in each of the selected options.

Options

A. (Drafting) Ind. Ed. 120, 121, 225.
B. (Woodwork) Ind. Ed. 124, 125, 325, and 326.
C. (Auto Mech) Ind. Ed. 155, 156, and (Driver Ed & Training) P.E. 300.
D. (Metalwork) Ind. 135, 236, 237, 350, and 351.

Minor

Ind. Ed. 111, 120, 121, and at least 2 of the options as listed for a major.
Language Arts — English

Teachers in Class A high schools must have a minimum of 24 semester hours with six hours in each subject taught. Requirements for the major and minor listed below include also the general graduation requirements 2 (excluding fine arts) and 6 of the College of Education.

Major

Required
Engl. 111, 221, 222, 225*, 251, 252, and 315*; Sp. 111, 221, and 114 or 313; and one of the following options.

Options
A. (Drama) Engl. 324, and 433 or 434; Sp. 243, 244, 259, and 343*.
B. (Literature) Complete group requirements of the Liberal Arts major in English to total 12 upper division hours.
C. (Speech) Sp. 212, 228, 259, 435, 432 or 433, and 448.
D. (Writing) Engl. 311 and 312; or 313 and 314; and 461 or 462.

Minor

English 111, 221 or 222, 225* or 315*, and 251 or 252; Sp. 111, 221, and 114 or 313; and 4 upper division hours from any one of the above options.

*Must be completed with a grade of B or better.

Language Arts — Humanities

The teaching requirements in the English language and literature subjects are set forth in the English field above. Foreign languages require 24 semester hours or their equivalent preparation. This combination is designed to qualify prospective teachers in English and one foreign language. The required sequence includes general requirements 6 and 11 hours of requirement 2 of the College of Education.

Major

Required
Engl. 111, 221, 222, 225*, 251, 252, and 315*, or 461; Sp. 111, 221, and one of the following options.

Options
A. French. 24 semester hours or equivalent, including French 225, 333, 334, and 336; Pol. Sci. 227; Phil. 444 or 469; and Hist. 323, 324, 450, and 463.
C. Spanish. 24 semester hours or equivalent; Phil. 444; Pol. Sci. 227; and 6 hours from Hist. 125, 126, 326, 327, 328.
D. German. 24 semester hours or equivalent; Phil. 444 or 470; Pol. Sci. 228; and 6 hours from Hist. 323, 324, 422, 424, 463.

Minor

No minor is offered.

*Must be completed with a grade of B or better.

Natural Sciences — Biological

Teachers in Class A schools are required to have 24 hours in the field of science with 6 hours in each subject taught. A teacher qualifying under this provision may also teach general science. Requirements for the major listed below include the general graduation requirements 1 and 6 of the College of Education.

Major

Required
Biol. 101, 102, 401; Chem. 111, 112; or Chem. 123, 124; Physics 123, 124 (or 243, 244); and 12 hours of which 8 must be upper division, from one of the following options.

Options
A. Biology — 229, 322, 329, 330, 343; Chem. 231.
B. Biology — 301, 312, 324, 421, 460. (A minor in Chemistry including Chem. 231 is required with this option.)
C. Biology — 225, 226, 227, 228, 320, 411, 430; Chem. 231.

Minor

Biol. 101, 102, and at least 4 hours of upper division Biology; and 5 hours of Chemistry or Physics beyond the general physical science requirement.

Natural Sciences — Physical

The teaching requirement set forth in the Biological Science field applies to the physical sciences as well. Requirements for the major listed below include also the general graduation requirements 1 and 6 of the College of Education.

Major

Required
Biol. 101-102; Chem. 111, 112; Geol. 111; Phys. 125, 124; and 10 hours from the following, including at least 5 hours from one department (specific course prerequisites must be met): Chem. 231, 232, 288, 304, 323, 324, 411, 412; Geol. 331, 335, 336, 337, 446; Physics, any of the upper division courses.

Minor

The minor shall consist of at least 15 hours, beyond the general graduation requirements, including 3 hours of upper division credit from Chemistry, Geology, or Physics.

Social Studies

To teach any of the social sciences, 24 hours in the field of social studies are required for certification with a minimum of 6 hours preparation in each specific subject taught. Requirements for the major may overlap general graduation requirements 3, 4, and requirement 6 of the College of Education.
Major

Required
Eco. 221, and 222, and 340, and 447 or 449; Hist. 101, 102, 131, 132; Pol. Sci. 100, 121; Psych. 111; Soc. 111; Anthro. 124 or 125; Psych. 246 or Soc. 320. In addition to these courses a minimum of 10 semester hours shall be selected from one of the two options.

Options

Minor
Eco. 221, and 340 or 447 or 449 or 453 Hist. 131, 132; Pol. Sci. 100, 121; Soc. 111; Anthro. 124 or 125; and one course from Option A or B above.

DEPARTMENTAL MAJORS AND MINORS

Departmental Curricula: The various departments of the schools and colleges of the University offer major and minor fields of study. Any one of the curricula that follows is suitable as a supporting minor to the combined fields of study above. Only those marked with an asterisk (*) will be accepted as a major in the College of Education. The specific requirements of the department prevail.

Accounting
*American Civilization
*Art
*Biology
*Chemistry
*Classical Languages
Economics
*English Language and Literature
*French**
*Geology
*Geography
*German**
*History

Journalism

Logopedics
*Mathematics
*Musical Education
*Philosophy
*Physical Education
*Physics
*Political Science

Psychology***
Religious Education

& Philosophy****

Sociology

Spanish**

Speech

TEACHER EDUCATION CURRICULA

ADMINISTRATION AND CURRICULUM

**Upper Division Courses**

424 Curriculum Development. (3). Curriculum philosophies and theories. An examination of recent programs and proposals. The local school building and individual teacher as units of curriculum development. System-wide curriculum development and evaluation with kindergarten through grade 12 articulation. (Offered summers only, when sufficient demand exists.)

434 The Junior High School. (3). Problems of the organization, function and curricular program of the junior high school, with emphasis on the transitional role of the junior high.

**Teaching preparation for a modern language requires 24 semester hours in the language to be taught, or 16 semester hours if the prospective teacher has 24 semester hours in another modern language.

***For the Special Education program in School Psychology consult either with the head of the Psychology Department or with the Dean of the College of Education.

****Religious Education must be combined with Philosophy on minor — no more than 6 hours Religious Ed. will count towards degree.

450 Simulation Workshop in Administration. (1-2). Designed for the experienced administrator who desires to improve his present skill and develop some new ones. The workshop focuses on the areas of: Human Relations, Group Dynamics, Decision Making, Administrative Communication, Perception and Staff Morale. Prerequisite: consent of instructor.

460 Group Dynamics for Teachers. (2). A laboratory course in human relations and group dynamics based upon involvement in various group activities. Applications for the use of group dynamics in classroom teaching utilizing knowledge gained in personal experience in group work. (Prerequisite: Teachers certification.)

AC. Ed. Graduate Courses

501 Introduction to Administration and Supervision. (2). An examination of the major theories of administration and their application to specific problems. Emphasis upon an overview of administration of the school district, especially problems involving the community and the staff. Includes data gathering for self-evaluation of supervisory potential. Open to all College of Education graduate majors.

503 The Sociology of Administration. (3). An examination of the interaction of Society and the School as it relates to the administrative processes. Systems of control, social class, power structure, human relations and group dynamics. Prerequisite: 3 hours in AC. Ed. or consent of instructor. (Offered alternate springs and alternate summers.)

504 Supervision and the Improvement of Instruction. (3). The application of curricular theories, psychology and methods of supervision to the problems of improving classroom instruction and teaching methods. (Offered fall and summer.)

506 Elementary School Organization and Administration. (3). Alternate methods of organizing the elementary school and its classrooms, problems of administration of staff, curriculum, pupils and facilities, community relations. Prerequisite: AC. Ed. 501. (Offered fall and summer.)

510 Extra-Class Activities. (2). The role of Extra-Class activities in elementary and secondary school programs. Problems of organizing and administering the program. (Offered summers only, when sufficient demand exists.)

522 Public School Finance. (3). Concepts of the financial support of education at local, state and national levels. Emphasis upon methods of taxation, budget preparation, and efficient expenditures. Prerequisite: AC. Ed. 501. (Offered spring and summer.)

523 School Law. (2). General concepts of law, interpretations of statutes and court decisions affecting education, legal responsibilities of school personnel. Kansas school law. (Offered fall and alternate summers.)

524 The School Plant (2). Planning new school buildings based upon educational programs. Evaluation of existing schools, remodeling, operation and maintenance of present school plant. (Offered alternate springs and alternate summers.)

COLLEGE OF EDUCATION 75
Organization and Administration of the Secondary School. (3.) Organizational plans for junior and senior highs, present trends. Problems of administration of staff, pupils, curriculum, facilities and community relationships in the modern secondary school. Prerequisite: AC. Ed. 501. (Offered spring and summer.)

Problems of Staff Personnel (3.) Advanced study of staff problems — selection and recruitment, certification, orientation, in-service training, evaluation, transfer and dismissal, and retirement. Prerequisite: Consent of instructor. (Offered alternate summers.)

School Business Management. (3) School budgeting processes, salary scheduling, cost accounting and purchasing procedures, IBM programming of record systems. Prerequisite: AC. Ed. 522 and consent of instructor. (Offered alternate summers.)

The Internship. (4-4-4). Assignment in the public schools for one full semester. Prerequisite: Masters degree, 12 hours in school administration, and 3.25 graduate grade average. (Arranged on individual basis.)

Seminar in the Process of Administration. (1-3) Concurrent enrollment in the Internship is required. (Arranged on an individual basis.)

Frontiers of Knowledge and the Future of Education. (3) Key concepts and discoveries in the sciences and humanities presented by experts in each field and investigation of their possible implications in education. (Offered summers when sufficient demand exists.)

AEROSPACE STUDIES

The United States Air Force, in agreement with Wichita State University officials, maintains a permanent active duty staff of personnel to implement the Senior Division curricula of its Reserve Officer Training Corps. This is a totally new program, authorized by Public Law 88-647, October 13, 1964. The purpose of Air Force ROTC under this legislation is to select young men for active duty and careers as commissioned officers in the United States Air Force.

There are two separate and distinct Air Force programs available to students at Wichita State University — first, there is a 4 Year Program, the first two years of which are known as General Military Education Program (GMEP); the second is a 2 Year Program, known in its entirety as the Professional Officer Education Program (POEP). Academically, the last two years of the 4 Year Program and all of the 2 Year Program are identical. Individual subjects in the first two years of the 4 Year Program are referred to as General Military Course (GMC), while the latter two years in either instance are referred to as Professional Officer Course (POC). All course listings are grouped under the common title Aerospace Studies. The objective of all courses in Aerospace Studies is to strengthen the general education base of the junior commissioned officer.

The Air Force provides uniforms and Aerospace Studies textbooks at no expense to students enrolled in either program. Students enrolled in the 4 Year Program must attend a four week Field Training Course (FTC), normally between the junior and senior years. The 2 Year Program requires a six week Field Training Course (FTC), satisfactory completion of which is required for acceptance into the Program, and the four week Field Training Course, normally conducted after the first successful academic year in the Professional Officer Course. Normally, students will be eligible to apply for the 2 Year Program after completion of the sophomore year.

Individual students receive $80 per month retainer pay for a maximum of 20 months when enrolled in the Professional Officer Education Program, regardless of whether enrollment is in the 2 Year or 4 Year Program. Pay to the student is divided into two payments: the 6 week Field Training Course and $120 per month for the 4 week Field Training Course. Travel expenses to and from either training site are reimbursed at the rate of 6 cents per mile.

Any student enrolled at an accredited University or College may enroll in either Aerospace Studies program at Wichita State University provided the respective institutions concur and the prospective student meets the qualifications determined by the Professor of Aerospace Studies. Entry into the Professional Officer Education Program is open to any qualifying male student who has four semesters remaining or either the undergraduate or graduate level. Upon completion of the Professional Officer Education Program and the awarding of a degree by the institution in which enrolled the Air Force ROTC Cadet is commissioned a Second Lieutenant by the President of the United States. Upon enlisting in active duty the new officer will receive $300 for purchase of uniforms.

A competitive Air Force scholarship program is in effect at Wichita State University for all who enroll in the 4 Year Program. This scholarship plan is known as the Financial Assistance Program (FAP). For those winning scholarships it provides $50 per month in pay, room, board, tuition, library and academic fees for the entire period for which the scholarship is awarded. In addition, three other separate scholarships are awarded to students who are enrolled in the Professional Officer Education Program. Specified about each scholarship program may be obtained from the Professor of Aerospace Studies.

Superior students during the freshman and sophomore years may be nominated for attendance at the United States Air Force Academy. Nomination is based on a quota allocated by the Academy to the Professor of Aerospace Studies at Wichita State University. All nominations by the Professor of Aerospace Studies must be concurred in by the President of the University.

The General Military Education Program consists of one hour classroom work and one hour Corps Training per week during the first semester of the academic year for freshmen Sophomores, during this first semester, attend class two hours and Corps Training one hour. The second semester of the academic year requires two hours of classroom work and one hour Corps Training from the freshmen, while the sophomores attend class one hour and Corps Training one hour. During the first semester of the freshman year and the second semester of the sophomore year certain regular college courses will be accepted as meeting pre-commission officer education requirements. These courses must be taken from the fields of Mathematics, the Physical or Natural Sciences, Foreign Languages, the Humanities or the Social Sciences. Final approval of supporting courses will rest with the Department of Aerospace Studies.

Students enrolling in the General Military Education Program will undergo a testing period of approximately six hours duration for the purpose of determining officer aptitude and eligibility for the Professional Officer Education Program. This testing will normally be conducted on Saturday and will be at no expense to the student.

Prospective Air Force Officers may enroll in the Professional Officer Education Program — the third and fourth years of the 4 Year Program or the first and second years of the 2 Year Program — if they have completed the General Military Education Program or the six week Field Training Course, and are qualified mentally and physically. To be eligible for enrollment, students must have a scholastic average of 3.000 or above, and must...
have completed the required processing by the Department of Aerospace Studies. Each of the four semesters of this course consists of three classroom hours and one hour of Corps Training per week.

Cadets enrolled in the Professional Officer Education Program and who qualify mentally and physically for pilot training are provided 71 hours of specialized instruction—of this total, 35 hours consist of intensive ground and air training in instrument and weather operations, while 36 hours are devoted to flying instruction by a Federal Aviation Agency approved school. The young Air Force pilot trainee may simultaneously qualify for a Federal Aviation Agency Private Pilot License.

Activities available to the student on a voluntary basis while enrolled in Aerospace Studies consist of two drill teams, two color guards, a band, cadet newspaper and Arnold Air Society. Arnold Air Society is a cadet organization whose purpose is to foster interest in, knowledge about, and the promotion of aerospace power. The squadron at Wichita State University is the largest in the continental United States, Puerto Rico and Hawaii.

**Lower Division Courses**

113 and 114 First Year General Military Course, 111 and 112 Corps Training, Aerospace Studies 113 and 114. World Military Systems. An introductory course exploring the causes of the present world conflict, the role and relationship of military power to that conflict, and the responsibility of an Air Force Officer. The course begins with a discussion of the factors from which differing political philosophies have evolved. It continues with a three-dimensional analysis of the three prime political philosophies which have guided segments of society in the twentieth century. This is followed by a discussion of the means that nations develop to pursue their objectives and how they confront each other in the use of these means. The course then treats individual military systems with emphasis upon the United States Department of Defense and the United States Air Force.

223 and 224 Second Year General Military Course, 221 and 222 Corps Training, Aerospace Studies 223 and 224. World Military Systems. Aerospace Studies 223 and 224 continue the study of world military forces and the political-military issues surrounding the existence of these forces. This includes a study of the United States Army, and the United States Navy, their doctrines, missions and employment concepts; a study of the military forces of NATO (North Atlantic Treaty Organization), SEATO (Southeast Asia Treaty Organization), CENTO (Central Treaty Organization) and their role in world security; and an investigation of the military forces of the USSR (Union of Soviet Socialist Republics), the Soviet Satellite Armies, and the Chinese Communist Army. The Aerospace Studies 224 phase concludes with an analysis of the trends and implications of world military power.

**Upper Division Courses**

353 and 354 First Year Professional Officer Course, 353 and 354. Growth and Development of Aerospace Power. A survey course about the nature of war; development of airpower in the United States; mission and organization of the Department of Defense; Air Force concepts, doctrine, and employment; astronautics and space operations; and the future development of aerospace power. Includes the United States space programs, vehicles, systems and problems in space exploration.

453 and 454 Second Year Professional Officer Course, 453 and 454. The Professional Officer. A study of professionalism, leadership, and management. Includes the meaning of professionalism, professional respons-

**ART EDUCATION**

**Lower Division Courses**

241 Art Education in the Elementary School. (3). Study of the child's creative and mental growth and development through the use of two and three dimensional materials; the development of an arts program for the elementary school.

242 Handcraft Methods. (3). Creative experiences in S process and design in three dimensional materials with emphasis on the interests, needs and capabilities of students at the various age-class levels; primary through high school. Prerequisite: Art Ed. 241.

**Upper Division Courses**

406 Art Curricular and Supervision Methods. (3). The construction of an art program of study outline for elementary grades and junior and senior high school; techies in the supervision of an art education program.

442 Art Education in Secondary School. (4). Study of the junior-senior high school students' continuing and developing needs for creative expression and understanding of art as a maturing individual. Included is observation in public school art education classes.

**EDUCATIONAL PSYCHOLOGY**

**Lower Division Courses**

233 The Elementary School Child. (4). His socio-cultural context, developmental characteristics, with stress upon application to instruction. Prerequisite; Psych. 111, Fd. Ed. 232 (or department consent), and sophomore standing.

**Upper Division Courses**


361** Educational Measurements. (3). Fundamental statistical methods applied to educational problems; construction, administration, and analysis of teacher made examinations. Prerequisite: Ed. Psych. 233 or 333.


405** Psychology of Reading. (3). Stresses adaptation of research findings to needs of classroom. Individual

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**Note:** *Aerospace Studies 113 and 224 students will also take courses from the fields of Mathematics, the Physical or Natural Sciences, Foreign Languages, the Humanities or the Social Science as approved by the Department of Aerospace Studies.

**Note:** Pre-requisites may be waived for equivalent experience by department consent.
case study of a child with reading difficulties. Prerequisite: El. Ed. 320.

421* Mental Hygiene. (3). Principles of mental hygiene in relationship to the development of wholesome personality. There are examined the interrelationships of teacher, school, home, and community as they affect mental health. Prerequisite: Ed. Psych. 233 or 333.


465* The Learning Process. (3). (Same as Psych. 465.)

Graduate Courses

500 Introduction to Graduate Study in Education. (3). Teaching as a field of graduate study with emphasis on the nature and methods of inquiry.

502 Educating the Poorly Adjusted School Child. (3). Perceptual approach to the problems of delinquent and emotionally disturbed children in both elementary and secondary schools.

511 Evaluating Pupil Progress. (3). Educational evaluation in the cognitive, affective, and psycho-motor domains; statistical analysis of test results. Prerequisite: Ed. Psy. 300 or consent of instructor.

520 Learning Theory for Teachers. (3). A study of the major learning theories and their effectiveness and application in the classroom. Individual differences in learning. Prerequisite: Ed. Psy. 233 or 333 or equivalent or consent of instructor.

521 Advanced Educational Psychology. (3). Review of recent research in the areas of growth and development, personality and social factors in education. Prerequisite: Ed. Psy. 520 or consent of instructor.

530* Educating the Adolescent. (3). Relation of the problem of adolescence to development of the secondary curriculum. Prerequisite: 6 hours of Ed. Psych.

561* Techniques of Educational Research. (3). Methodology for the consideration of professional problems. Prerequisite: either Math. 105, 305, or Ed. Psych. 361.

562* Presentation of Research. (1-2). A project submitted in thesis manuscript form. Prerequisite: Ed. Psych. 561 or Log 565 or concurrent enrollment. May be repeated for a maximum total of 2 hours credit.

575-576 Thesis. (2-2).

ELEMENTARY EDUCATION

Lower Division Course

216 Children's Literature. (3). Reading and discussion of stories, poems, and factual materials for children; a background of appreciation essential to the setting up of standards of selection. Authors, illustrators, poets, and their contributions to children's literature are studied; also the children's library and booklist.

Upper Division Courses


*Prerequisites may be waived for equivalent experience by department consent.


406 Social Studies in the Elementary School. (3). Objectives, methods of teaching, equipment and resources, and evaluation and measurement in the social studies in the elementary school. The unit method of construction is stressed.


408 Science in the Elementary School. (3). To identify and explore the principles of science that teachers should recognize and understand; to give consideration to their development from kindergarten through grade eight. To experience these concepts through demonstration or experimentation.

447* Student Teaching in the Elementary School. (3-10). FS The student teaching program provides full time participation in the public schools and Institute of Logopedics under guidance of a master teacher and a college supervisor. Logopedics majors will be assigned to the Institute of Logopedics for the first nine weeks and then assigned to a self-contained classroom for the second nine weeks of the semester. Prerequisite: Fd. Ed. 202, Ed. Psy. 233, El. Ed. 320 and 321.

448 Seminar in Student Teaching. (3). Taken concurrently with Student Teaching. Concerned with evaluation of experience and planning for the next experience in the classroom.

450 Workshops in Education. (1 to 4).

452 Special Studies in Education. (1-3). a. Arithmetic, b. Health and physical education, c. Language Arts, d. Reading, e. Recent innovations, f. Science, g. Social Studies. Course designed for elementary school teachers. Only one pre-selected area will be emphasized during a semester. (Prerequisite: Teachers certification.)

Graduate Courses

550 Special Problems in Education. (1 to 4). Directed reading and research under supervision of a graduate instructor. Prerequisite: approval of the department.

559 Seminar in Elementary Education. (3).

563 Trends in Theories of Instruction. (3). Uses materials from public school work groups and from research journals to examine development of modern practices.

INDUSTRIAL EDUCATION

Lower Division Courses

111 Introduction to Industrial Education. (2). Industrial Education as a career; an introduction to present
day programs and the opportunities available; a survey of materials and processes used in industry; recommended as a first course in the department.

120 *Drafting I. (3). 2R; 4L. An introduction to orthographic, isometric, and oblique drawing, with emphasis placed on auxiliary views, sectional views, dimensioning, lettering, care and use of drafting instruments.

121 *Drafting II. (3). 2R; 4L. A study of the relationship of views in drafting with emphasis placed on rotation and visualization through logic. Prerequisite: Ind. Ed. 120.

124 Woodwork I. (3). 2R; 3L. Fundamental use and care of handtools; building of projects involving basic woodwork processes; development of accepted shop practices; application of brush and wipe-on finishes.

125 *Woodwork II. (3). 2R; 3L. Continuation of Woodwork I with emphasis placed on the use and care of woodworking machines and the application of spray finishes. Prerequisite: Ind. Ed. 124.

135 Metalwork I. (3). 2R; 3L. A basic course dealing with the processes, equipment, materials and products of the metalworking industry; lab experience in sheetmetal, benchmetal, forging, founding, welding, and machine tools.

155 Auto Mech. I. (3). 2R; 3L. The fundamental principles of the operation of a motor vehicle. A study made of motors, transmissions, differentials, steering, brakes, carburetion, and the electrical system.

156 *Auto Mech. II. (3). 2R; 3L. Practical application of theories studied in the first semester. Shop work includes tune-up, valve grinding, transmissions, front end, etc. Prerequisite: Ind. Ed. 155.

180 Electricity I. (3). 2R; 4L. A study of basic concepts of direct current electricity with emphasis on an understanding of Kirchoff's and Ohm's laws.

181 *Electricity II. (3). 2R; 4L. A study of basic concepts of alternating current electricity with emphasis on reactance and impedance of resonant and non-resonant circuits. Prerequisite: Ind. Ed. 180.

225 *Drafting III. (3). 2R; 4L. Development of working drawings in aircraft, structural, architectural, electrical and map drafting. Prerequisite: Ind. Ed. 121.

227 *Drafting IV. (3). 2R; 4L. Advanced study for drafting students with emphasis placed on problems growing from the needs of the student. Prerequisite: Ind. Ed. 225.

236 *Metalwork II. (3). 2R; 3L. Study of materials used by the sheetmetal industry; methods of layout, forming, fastening, finishing; use of hand tools and machines. Prerequisite: Ind. Ed. 135.

237 *Metalwork III. (3). 2R; 3L. Study of mechanical and physical properties of metals and how these characteristics are affected by heat; the working of metals while hot; forging, heat treating, founding and welding. Prerequisite: Ind. Ed. 135.

260 Plastics I. (3). 2R; 3L. Study of plastic materials being used in industry; fundamental operations including molding, casting, thermoforming, fabrication, and finishing.

*Prerequisites may be waived for equivalent experience by department consent.

261 *Plastics II. (3). 2R; 3L. Technical information and product development; construction of molds and forms for molding, casting, laminating, and thermforming. Prerequisite: Ind. Ed. 260.

282 *Electronics I. (3). 2R; 4L. A study of the fundamental characteristics of vacuum tubes and semiconductors and an analysis of their operation. Prerequisite: Ind. Ed. 181.

283 *Electronics II. (3). 2R; 4L. A study of basic electronic circuits and systems, including an introduction to radio circuits and systems, with proper circuit analysis techniques receiving major emphasis. Prerequisite: Ind. Ed. 282.

Upper Division Courses

319 Shop Planning and Organization. (3). Selection, purchase, and organization of shop equipment and supplies; developing and maintaining necessary records and reports; planning of shop facilities.

325 *Woodwork III. (3). 2R; 3L. Further application of the fundamentals of woodwork and design in construction of advanced projects; a study of wood technology and how it affects construction. Prerequisite: Ind. Ed. 125.

326 *Woodwork IV. (3). 2R; 3L. Advanced work for specialists in the woodworking field with emphasis placed on problems growing from the needs of the student. Prerequisite: Ind. Ed. 325.

350 *Metalwork IV. (3). 2R; 3L. Fundamentals of benchwork and basic operations on lathes, mills, grinders, shapers, and drills. Prerequisite: Ind. Ed. 135.

351 *Metalwork V. (3). 2R; 3L. Emphasis on advanced machine tool operations; new techniques of industry and the making of basic tools and dies. Prerequisite: Ind. Ed. 350.

362 *Plastics III. (3). 2R; 3L. Advanced problems in production techniques; compression and injection molding; recent developments and experimental work. Prerequisite: Ind. Ed. 261.

363 *Plastics IV. (3). 2R; 3L. Advanced problems in production techniques; extrusion, rotational casting and foaming. Recent developments and experimental work. Prerequisite: Ind. Ed. 362.

384 *Electronics III. (3). 2R; 4L. An introduction to nonsinusoidal wave shapes; multivibrators, blocking and shock-excited oscillators, wave shaping circuits; limiters, clamps, limiters and counters; sweep generator circuits; special power supply considerations; circuit system applications; television transmitters and receivers; pulse circuit transistor applications. Prerequisite: Ind. Ed. 283.

385 *Electronics IV. (3). 2R; 4L. Motors and generators; synchros and synchro control systems; servo control devices and systems; industrial measurement and control systems; introduction to microwaves and microwave oscillators; microwave transmitters; microwave duplexer and antennas; amplifiers and microwave mixers; microwave receivers; multiplexing; radar detection and navigation systems. Prerequisite: Ind. Ed. 384.
401 Preparation of Instructional Materials. (3). The selection, development, and organization of instructional materials for effective teaching of industrial education.

LIBRARY SCIENCE

The Kansas State Board of Education requires that teacher-librarians in Class A and Class B schools with enrollments under 200 have eight hours credit in library science.

The courses listed from 401 to 405 may be used to satisfy this requirement. Elementary school librarians may also select from these courses. They are offered only in the summer session.

Note that courses 403 and 405 are offered in alternate summers.

The library science courses are planned for: (1) students who wish to meet qualifications for positions as elementary or secondary school librarians; (2) classroom teachers who desire a broader acquaintance with books for curriculum enrichment; and (3) administrators who wish to evaluate the effectiveness of the school library and its relationship with all areas of the total instructional program.

Upper Division Courses

401 School Library Cataloging and Classification. (3). The fundamentals of the Dewey Decimal Classification system and the basic cataloging techniques necessary for organizing a school library collection.

402 The School Library Book Collection. (3). The principles and methods involved in book selection for the school library, the techniques of reference service, and the literature of school subjects.

403 School Library Administration. (2). The activities and functions of the school library, the relationship of the librarian to the teaching staff, the organization of technical and mechanical processes such as circulation and order routines, the repair of books, and teaching the use of the library to students.


405 The School Library Program. (2). Emphasis is on planning and implementing an effective school library program. Explores objectives and standards, and deals with all phases of instruction, services, and activities through which the school library contributes to the total instructional program of the school.

LOGOPEDICS

MAJOR. A major may be obtained with emphasis in speech pathology, audiology, or deaf education. The curriculum sequence of the Department is designed to meet the academic and practicum requirements for clinical certification in speech pathology or audiology as set forth by the American Speech and Hearing Association. The curriculum may also prepare students as teachers of the deaf as outlined by the Conference of Executives of American Schools for the Deaf. These requirements necessitate direct supervised experience with actual cases. Logopedics 317, 326, 417 and 441 are laboratory courses required of students majoring in speech pathology. Students desiring certification in audiology must elect Logopedics 317, 326, 441, and 455. Students preparing themselves to be teachers of the deaf must elect Logopedics 317, 326, 440 and 441. All of these clinical courses are designated by the symbols (R) and (L). Three hours of credit per semester requires a minimum of ten clock hours per week. Two hours of credit per semester requires a minimum of seven clock hours per week. Various other courses in the Department are listed with lecture hours designated as (R) and demonstrations designated as (D), each hour of D being one clock hour.

Teacher Education: By arrangement with the Department of Education, any one of these emphases may be combined in a dual major with Elementary Education to qualify a candidate for employment in the Public Schools. The Education requirements are given on page 71.

The major with emphasis in speech pathology consists of 30 hours and includes the following courses:

Required
Logopedics 111, 132, 212, 315, 317, 324, 326, 415, 417, 431 and 441.

The major with emphasis in audiology consists of 30 hours and includes the following courses:

Required
Logopedics 111, 132, 212, 315, 317, 324, 326, 431, 436, 437 and 441. Logopedics 455 is required but is taken in the first semester of graduate work.

The major with emphasis in deaf education consists of 30 hours and includes the following courses:

Required
Logopedics 111, 212, 317, 326, 431, 433, 434, 437, 438, 439, and 440. Logopedics 441 is required but is taken in the first semester of graduate work.

The Logopedics undergraduate major does not prepare a person for certification by the American Speech and Hearing Association. A.S.H.A. membership requires the Master's degree (or equivalent) with major emphasis in speech pathology and/or audiology in a well integrated program of 60 semester hours.

All graduate students are expected to spend 20 hours per week in the clinic or laboratory. Demonstration or laboratory portion of Logopedics courses apply as part of this requirement.

MINOR. The minor consists of 15 hours. Arrangements for the minor should be made in consultation with the Logopedics Department.

Logopedics 111 and 212 may be transferred to the College of Liberal Arts as they are non-professional courses. Corrective training for students with speech or hearing disorders may be arranged with the Institute of Logopedics without charge to regularly enrolled University students.

Speech Pathology

Lower Division Courses

111 Introduction to Speech Pathology. (3). 3R; 1D. General orientation, history of the field, the place of Logopedics among the professions, speech and language disorders commonly found, and application of the border sciences to these conditions.

132 Introduction to Clinical Procedures. (2). 1R; 6D.
Observation of clinical procedures and normal children.

212 The Development of Language. (3). 3R; 1D. Pre-natal and post-natal development of the structures involved in speech, and the applications of the development and regression theories to speech disorders. General development of the child from birth.
to five years, emphasis on speech development. Prerequisite: Sophomore standing, or department consent.

Speech Pathology
Upper Division Courses

315 Clinical Phonetics. (3). FR; 1D. Anatomy of the face, tongue, and mandible. Applied phonetics as it relates to articulatory defects. Prerequisite: Logopedics 111 and 212 with grades of C or better, or department consent.

317 Techniques of Speech Pathology. (3). FR; 6L. Observation of cases in the speech clinic, with emphasis on simpler types of defects. Routine of record taking, interview and counseling techniques with parents and professional workers. The use of graphic equipment. Prerequisite: Logopedics 315 with a grade of C or better, or department consent.

324 Anatomy of Voice. (3). SR; 1D. Anatomy of the pharynx, nose, larynx, and thorax. Disorders from organic and functional changes in the organs of phonation. The normal voice. Prerequisite: Logopedics 315 with a grade of C or better, or department consent.

326 Application of Techniques. (2). FR; 6L. Supervised application of techniques to cases with simpler problems. Observation of more difficult communicative disorders. Introduction to techniques used with stutterers and aphasics. Prerequisite: Logopedics 324 with a grade of C or better, or department consent.

415 Organic Anomalies of Speech. (3). SR; 1D. Specific congenital and post-natal anomalies that produce speech disorders, including cleft palate and mongolism. Prerequisite: Logopedics 324 with a grade of C or better, or department consent.

417 Supervised Practicum in Speech Pathology. (3). SR; 6L. Supervised practice teaching including application of advanced techniques to problems of an organic or neurological etiology. Prerequisite: Logopedics 415 with a grade of C or better, or department consent.

421 Speech Defective Child in the Public School. (3). FS. Problems of the speech defective child in the schools relative to emotional handicaps, pedagogical retardation, etc. Methods for classroom teachers.

442 Infancy: Pre- and Post-Natal Behavior. (2). Development of behavior from the ontogenetic viewpoint in both sub-human and human infants. Prerequisite: Department consent.

450 Workshop in Logopedics. (1-4). This course will be offered from time to time on various aspects of speech and hearing habilitation.

461 Neurology of Cerebral Palsy and Aphasia. (4). F. Groundwork of neuro-anatomy and neuro-physiology required for the understanding of conditions resulting from lesions of the nervous system. Prerequisite: Logopedics 315 and 324 with a grade of C or better, or department consent.

462 Cerebral Palsy. (4). FR; 3D. Problems and training procedures concerned with cerebral palsy. Prerequisite: Logopedics 461 with a grade of C or better, or department consent.

470 Laboratory Instrumentation. (3). FR; 3D. Application of and limitations of research and clinical instruments employed in the field of Logopedics. Prerequisite: 18 hours of Logopedics or department consent. (Offered in alternate years.)

490 Advanced Logopedics. (2). Individual study and research on specific problems.

Speech Pathology
Graduate Courses

505 Introduction to Graduate Study. (3). FS. Survey of research in the fields of speech pathology, audiology, and voice science. Principles of research procedure. Prerequisite: Department consent.

507 Early Speech Development. (2). Mastery during infancy of elementary speech sounds, patterning of sounds, appearance of words, sentences and meanings. Prerequisite: Department consent.

524 Aphasia. (3). FR; 3D. Various contemporary theories in regard to the cause and neuro-physiology of aphasia; modern techniques. Prerequisite: Logopedics 461 with a grade of C or better, or department consent.

531 Basic Communicative Sciences I. (3). FR; 2D. A critical review of pertinent research concerning the physiological bases of speech-respiratory, laryngeal, resonatory and articulatory functions. Prerequisite: Logopedics 470 with a grade of C or better, or department consent.

532 Basic Communicative Sciences II. (3). FR; 2D. A critical review of research dealing with the perception of speech. Emphasis is also given to techniques of speech synthesis and analysis. Prerequisite: Logopedics 470 with a grade of C or better, or department consent.

535 Stuttering. (3). FR; 3D. Organismal and functional approaches to the problem. Prerequisite: Logopedics 461 with a grade of C or better, or department consent.

541 Neurophysiology of Communication. (2). Special lectures, seminars, clinical demonstrations, and independent study. Prerequisite: Logopedics 461 with a grade of C or better or department consent. (Offered when special instructors are available.)

552 Examination Methods in Speech Pathology. (4). FR; 8D. The differentiation of logopedics disorders on an objective basis. Prerequisite: Logopedics 461 with a grade of C or better.

560 Seminar in Rehabilitation of Speech and Hearing Handicaps. (3). Rehabilitation of adults with various types of organic problems including cerebral palsy, aphasia, hearing loss or other handicaps resulting from organic impairments. Guest lecturers will sometimes be used and the course content will be influenced by the particular specialization areas of the instructors. (Offered when special instructors are available.)

568 Seminar in Clinical Research. (3). Emphasis is given to a review of recently published research which reflects applicability in the clinical setting. Techniques of experimental design are discussed. Prerequisite: Logopedics 503 with a grade of C or better, or department consent.

575 Thesis Research. (2).

576 Thesis. (2).
580 Doctoral Research. (1R). Required of advanced graduate students not enrolled in Logopedics 676. Prerequisite: Master's degree or department consent. May be repeated.


FS

Audiology
Upper Division Courses

431 Introduction to Audiology. (3). 3R; 1D. History and scope of the field. Elementary anatomy of the ear, auditory testing. Rehabilitation and training of the deaf and hard of hearing. Prerequisite: Logopedics 315 with a grade of C or better, or department consent.

435 Anatomy, Physiology, and Pathology of the Ear. (3). S 3R; 1D. Detailed study of the ear. Prerequisite: Logopedics 431 with a grade of C or better, or department consent.

436 Introduction to Audiomterics. (3). 3R; 1D. Techniques and interpretation of hearing tests. Prerequisite: Logopedics 431 with a grade of C or better, or department consent.

437 Speech Reading and Auditory Training. (3). 3R; 1D. F Methods of teaching speech reading. Techniques used in auditory training. Prerequisite: Logopedics 431 with a grade of C or better, or department consent.

441 Supervised Practicum in Speech for the Deaf. (3). F 1R; 9L. Supervised application of techniques involving the teaching of speech, speech reading and auditory training to the deaf and hard of hearing child. Prerequisite: Logopedics 431 with a grade of C or better, or department consent.

455 Practicum in Audimetrics. (3). 1R; 9L. Application of audimetric techniques in clinical situations. Prerequisite: Logopedics 436 with a grade of C or better, or department consent.

Audiology
Graduate Courses

514 Hearing Aids. (3). 2R; 6D. Speech audimetry; F assessing the usefulness of residual hearing; the construction and function of hearing aids, principles and procedures in selecting a hearing aid; and adjustment to a wearable instrument. Prerequisite: Logopedics 436 with a grade of C or better, or department consent.

516 Advanced Clinical Audiology. (3). 2R; 6D. Diagnostic procedures in an audiological clinic. Techniques for administration and interpretation of advanced audimetric tests. Prerequisite: Logopedics 436 with a grade of C or better, or department consent. (Offered in alternate years.)

518 Seminar in Audiology. (3). Principles of the psycho-physical dimensions of hearing, function of the normal ear; problems in industrial noise. Prerequisite: Logopedics 436 with a grade of C or better, or department consent. (Offered in alternate years.)

Deaf Education
Upper Division Courses

432 Introduction to Deaf Education. (3). 3R; 1D. Comparison and contrast of the deaf child with the normal child in the areas of physical, mental, social and personality development. Evolution of educational programs and methods used with the deaf. Special aspects of curriculum development in schools and classes for the deaf. Agencies, professional organizations, and journals concerned primarily with education and rehabilitation of the deaf. Prerequisite: Logopedics 431 with a grade of C or better, or department consent. (Offered in alternate years.)

434 Teaching Language to the Deaf. (3). 3R; 1D. Evolution of methods. Analysis of language problems and teaching techniques. Prerequisite: Logopedics 433 with a grade of C or better, or department consent. (Offered in alternate years.)

438 Teaching Speech to the Deaf. (3). 3R; 1D. Current methods. Evaluation techniques. Prerequisite: Logopedics 433 with a grade of C or better, or department consent. (Offered in alternate years.)

439 Teaching School Subjects to the Deaf. (3). 3R; 1D. A study of the principles, techniques, and methods for teaching school subjects to deaf children. The development of reading readiness and reading ability from the point of view of acquiring language facility for achievement in other basic subjects. Prerequisite: Logopedics 433 with a grade of C or better, or department consent. (Offered in alternate years.)

440 Supervised Practicum in Teaching the Deaf. (2). 1R; 6L. Supervised application of techniques involving the teaching of academic material and the development of language for the deaf child. Prerequisite: Logopedics 439 with a grade of C or better, or department consent. (Offered in alternate years.)

MILITARY SCIENCE

The Department of the Army maintains a Senior Division Reserve Officers Training Corps at Wichita State University. The General Military Science program is taught and consists of two parts, the Basic and Advanced course. Both courses are voluntary, but if the student enrolls in either course, he must complete the course as a prerequisite to graduation unless permission to withdraw is received from the University authorities and the Professor of Military Science.

The basic course consists of one hour of conference work and one hour of Leadership Laboratory during the freshman year and two hours of conference work and one hour of Leadership Laboratory during the sophomore year. During the freshman year certain regular college courses will be accepted as meeting pre-commission officer education requirements. Any of the courses currently listed in the Wichita State University Bulletin as "prescribed fields of study," excluding art and music are acceptable. (See pages 29 and 21.) Final course approval will be with the Department of Military Science.

Students may enroll in the Advanced course of the unit if they have completed the Basic course or have received credit in lieu thereof for service in the Armed Forces as determined by the Professor of Military Science. Students must complete survey and general screening tests as may be prescribed. Students enrolling in the Advanced course will be paid the value of the commuted ration (90 cents a day) from the time of their enrollment up to the maxi-


139 Methods of Teaching Band and Orchestral Instruments (brass). (1). Procedures and materials for class and private teaching of all brass instruments, emphasizing tone qualities, difference in embouchure, and necessary technique for performance. Band and orchestra laboratory.


200 Elementary School Music. (3). For student planning to teach in the elementary school classroom. Furthering children’s musical growth through singing, listening, rhythmic and creative activities. Development of student’s own musical ability.

201 Fundamentals of Music for the Elementary School. (2). Techniques and materials focused on teaching music in elementary schools. For students primarily interested in teaching music in elementary schools. Includes observation in public schools. Prerequisite: Music education major or consent of instructor.

203 Fundamentals of Music for Secondary Schools. (2). Techniques and materials focused on teaching music in junior and senior high schools. Includes observation in public schools. For students primarily interested in teaching music in the secondary schools.

*Military Science 113, 114, 333, and 443 students will take courses from the Area of Mathematics, Physical or Natural Science, Foreign Language, the Humanities, or Social Science as approved by the Department of Military Science. Students enrolled in 333 or 443 must substitute a course of three or more credit hours.

1. Credit for portions of the basic course may be given for prior military service.
2. Prerequisite may be waived by department consent.
3. Prerequisite may be waived by department consent provided student is compressing the advanced course.

Upper Division Courses

301 Survey of Elementary School Music. (3). An overview of activities carried on in the elementary school. Includes observation in the public schools. For students primarily interested in teaching music in secondary schools. Prerequisite: Music Ed. 203.

302 Advanced Techniques in Elementary School Music. (2). Organization of the music program in the elementary school. Evaluation of materials, practices, philosophies, and trends in music education. For students primarily interested in teaching music in the elementary school. Includes observation in public schools. Prerequisite: Music Ed. 209 or 201 and 303.

303 Survey of Secondary School Music. (3). An overview of methods and materials used in secondary schools. Includes observation in public schools. For students primarily interested in teaching music in the elementary school. Prerequisite: Music Ed. 201.

337 Advanced Techniques in Woodwind Methods. (1). (See Music 337.)

339 Advanced Techniques in Brass Methods. (1). (See Music 339.)

340 Advanced Techniques in Percussion Methods. (1). (See Music 340.)

430 Pedagogy of Theory. (2). (See Music 420.)

432 Teaching of Music Literature. (2). (See Music 432.)

484 String Teaching Seminar. (2). Historical development of string instrument teaching. Problems involving traditional and recent techniques. Private study versus class study. School class methods, studio methods, etc. Prerequisite: consent of instructor.

487 Piano Pedagogy. (2). Designed to improve the work of the private teacher of piano and to equip pianists to teach piano classes effectively. Techniques and materials. Prerequisite: consent of instructor.

Graduate Courses

521 Elementary Music Supervision. (3). Trends in elementary music education; evaluation of various materials and techniques; special projects in planning and executing a modern program of music supervision. Prerequisite: Music Ed. 302.

531 Developing the Child's Musical Understanding. (3).

532 Band Rehearsal Laboratory. (2).

535 Seminar in Music Education Materials (Vocal). (2). (See Music 535.)

541-542 Special Project in Music. (1-3; 1-3). (See Music 541-542.)

545 Seminar in Music Education Materials (Instrumental). (2). (See Music 545.)

551 Psychology of Music. (2). (See Music 551.)

552 Introduction to Graduate Study. (3). (See Music 552.)

554 Research Seminar in Music Education. (3). (See Music 554.)

575 Thesis Research. (2).

576 Thesis. (2 or 3).

PHYSICAL EDUCATION, HEALTH, AND RECREATION

SERVICE PROGRAM

All P.E. 101 activity courses will meet two class periods each week and will carry one hour credit. Such courses will count toward graduation requirements, but will not replace any required academic hours.

Juniors and seniors may enroll for three hours of physical education per week for one hour of elective credit, not to replace any academic requirements for graduation.

When enrolling in P.E. 101 activity courses, the course numbers are to be followed in sequence to designate the semesters of activity courses already completed.

101, 102, 103, 104 Physical Education for Men. (1 each). Two hours per week to be elected each semester from the following activities:

Group Activities: touch football, speedball, softball, volleyball, basketball, gymnastics games, and varsity activities.

Individual Activities: tennis, badminton, handball, golf, bowling, swimming, weight training, social dance, folk and square dance, and adapted physical activities.

Gymnastics: tumbling, trampoline, and apparatus.

Combatives: wrestling.

105, 106, 107, 108 Physical Education for Men. (1 each). Two hours per week each semester, except that an additional hour per week will be assigned by arrangement. Prerequisite: P.E. 101, 102, 103, 104.

101, 102, 103, 104 Physical Education for Women. (1 each). Two hours per week to be selected each semester on the advice of the director and physician from the following activities: archery, badminton, bowling, recreation games, tennis, golf, swimming, life-saving, fencing, gymnastics, tumbling, self-testing activities, body mechanics and basic skills, track, basketball, field hockey, soccer, speedball, softball, volleyball, hiking and outing activities, folk dance, modern dance, theatre dance, social dance, folk dance and square dance, and special restricted activities.

105, 106, 107, 108 Physical Education for Women. (1 each). Meet three hours a week each semester, two hours of activity and one hour of leadership training. Prerequisite: P.E. 101, 102, 103, 104.

PROFESSIONAL PROGRAM REQUIREMENTS

Teachers in Kansas Class A schools in the field of physical education are required to have 24 hours preparation, including 5 hours of health, physiology, first aid, or hygiene, and 10 hours in physical education, which may include teaching methods in physical education.

Major

Required
P.E. 115, 117, 212, 225, 227, 329, 330, and 444. Also P.E. 101, 102, 103, and 104 (service courses) will be required of all majors. In addition to these courses one of the following options must be completed.

Options

B. (Men) P.E. 118M, 311M, 312M, 331M, 335, 336, and 337. Men Physical Education majors must pass a Sports Skills Proficiency Examination before being permitted to enroll in P.E. 311M or P.E. 312M.

Minor

Required
P.E. 115, 329, and 330. In addition one of the following options must be completed.

Options
A. (Women) P.E. 117, 225, 400, and 9 or 10 hours of electives.

B. (Men) P.E. 118, 225, 311M, 312M, 331M, and 3 hours of electives. Men Physical Education minors must pass a Sports Skills Proficiency Examination before being permitted to enroll in P.E. 311M or P.E. 312M.

C. (Men and Women — Recreation) Music Ed. 209; P.E. 117, 202, 212, 225, 226, and 426. Minors with
this option may be elected in the College of Liberal Arts in accordance with transfer regulations.

D. (Women — Dance) P.E. 212, 223, 324, 412, 424, and 446. Skill courses: Folk Dance; Elementary, Intermediate, and Advanced Modern Dance; Social Dance; Theatre Dance; or equivalents to be approved by the department.

**PROFESSIONAL COURSES**

Professional courses for physical education, health, and recreation are offered in the College of Education and, unless otherwise indicated, are open to both men and women. Course numbers followed by M are for men only; by W for women only.

**Lower Division Courses**

115 Personal and Community Health. (3).

117 First Aid. (2). Standard and/or advanced first aid with certification by the American Red Cross.

118M Fundamentals of Major Sports. (3). The elementary fundamentals of major sports. Emphasis on materials, techniques, theory, and coaching methods.

202 Camp Leadership. (2). 3R. General camping standards and skills.

203W Introduction to Physical Education. (2). 2R; 3L. Includes a study of standards, testing procedures, officiating and basic skills.

204W Body Mechanics and Gymnastics. (2). 2R; 3L. Principles of body mechanics and application to gymnastics including free exercise, tumbling, apparatus, and trampoline.

210 Safety Education. (2). A general survey of the field of safety education. Emphasis on the selection and organization of instructional materials for classroom use.

212 Folk and Square Dance. (2). 1R; 2L. Materials from different countries and teaching methods for high school and recreational groups. Prerequisite: sophomore standing or department consent.

220M Rules and Mechanics of Officiating. (2). 2R; 1L. Theory, rules, and mechanics of officiating major sports common to the high school and college athletic program.

223 Introduction to Dance. (2). 2R; 2L. History, philosophy, and basic background work in the field of dance. Prerequisite: one activity course in modern dance.

225 Elementary Play Activities. (3). 2R; 2L. A study of the curriculum and methods of teaching physical activities to elementary children. Includes practice in playing and teaching games in the normal progression used in elementary physical education; and field work with children of elementary school age. Prerequisite: sophomore standing.

226 Introduction to Community Recreation. (2). A study of the philosophy, origin, and development of modern recreation programs.

227 History and Principles of Physical Education. (3). History, philosophy, aims, and objectives of physical education; survey of a modern program.

**Upper Division Courses**

300 Driver Education and Training. (5).

311M Techniques in Physical Education I. (3). 2R; 3L. Emphasis upon development of skill and assimilation of teaching techniques. Activities covered are soccer, golf, bowling, volleyball, tumbling, and gymnastics. Prerequisites: Pass the Sports Skills Proficiency Examination in the above activities.

312M Techniques in Physical Education II. (3). 2R; 3L. Emphasis upon development of skill and assimilation of teaching techniques. Activities covered are wrestling, badminton, tennis, and baseball. Prerequisite: Pass the Sports Skills Proficiency Examination in the above activities.

324 Methods in Modern Dance. (2). Teaching techniques and compilation of materials for teaching dance in educational programs. Prerequisite: one semester modern dance and one semester of folk dance or equivalent.

329 Applied Human Anatomy. (3). 3R; 1L. A study of the structure and function of the skeletal and muscular systems of the human body with direct application to body movements in physical activities. Prerequisite: Biol. 101 or consent of department.

330 Kinesiology. (3). 3R; 1L. The study of human motion by means of muscular and mechanical analysis. Prerequisite: P.E. 329 with a grade of C or better or department consent.

331M Athletic Injuries and Training Techniques. (2). 2R; 1L. Injuries common to athletic activities, emphasizing prevention, first aid, treatment and care as prescribed by the team physician.

335M Football Theory and Organization. (2). Advanced theory of team play, organization and management of competition, etc. Prerequisite: Phys. Ed. 118 or concurrent enrollment.

336M Basketball Theory and Organization. (2). Theory of basketball, including methods of teaching fundamentals, individual and team offense and defense, various styles of play, and methods of coaching. Prerequisite: Phys. Ed. 118 or concurrent enrollment.

337M—Theory and Organization of Track and Field Athletics. (2). Selection of personnel, conditioning, training, and techniques. Prerequisite: Phys. Ed. 118 or concurrent enrollment.

342W Advanced Techniques in Sports. (2). 2R; 2L. Techniques and teaching progressions in seasonal sports, study of rules, duties of officials, organization of classes and contests, educational management, soccer, speedball, softball, volleyball. (Prerequisite: Student must complete skill requirements in each of the above sports as established by the department.)

343W Advanced Techniques in Sports. (3). Continuation of 342. 3R; 2L. Basketball, golf, bowling, swimming. (Prerequisite: Student must complete skill requirements in each of the above sports as established by the department.)

344W Advanced Techniques in Sports. (3). Continuation of 342W and 343W. 3R; 2L. Hockey, archery, badminton, tennis. (Prerequisite: Student must complete skill requirements in each of the above sports as established by the department.)

**COLLEGE OF EDUCATION**
400 Health Education. (2 or 3). Health problems and organization of materials for health instruction. Individual projects for graduate students.

412 Methods and Materials in Folk and Square Dance. (2). R. Materials selected from American and European countries and teaching methods for schools and recreational groups. Will include outside preparation dealing with source materials and methods. Prerequisite: P.E. 215 or consent of department.

424 Creative Dance in the Schools. (2). Discussion and laboratory work with emphasis on appropriate and sincere expression. Class work, reading, and observation of selected groups.

426 Community Recreation. (2). The organization and administration of community recreation. Prerequisite: P.E. 226.

436 Camp Administration. (3). Modern practice in camp organization, program-building, business practices, staff training and guidance. Problems in camping administration.

444 Organization and Administration of Health and Physical Education. (3). The organizational and administrative problems of health and physical education programs at the high school level; the aims and objectives, management of athletics, the physical plant, intramurals, and administrative policies.

446 Dance Composition and Production. (2). Prerequisite: P.E. 212 and 324 or consent of department.

495 Applied Health I. (2). Introduction to public health problems and practices. Field excursions arranged. Prerequisite: department consent.

496 Applied Health II. (2). Intensive study of selected health problems with regard to illness prevention and the present state of world health. Prerequisite: Phys. Ed. 495 or department consent.

Graduate Courses

500 Recent Literature in Health, Physical Education, and Recreation. (3). Survey and critical analysis of research and other pertinent materials in field.

510 Adapted Physical Education. (3). Philosophy, principles, and methods of adapting physical education and recreation activities to the needs of the handicapped and the exceptional individual; laboratory experience. Prerequisite: P.E. 330 or consent of department.

512 Advanced Techniques in P.E. (3). Comprehensive coverage of select physical activities with special emphasis on class procedures. Laboratory experiences.

520 Foundations of Physical Education. (3). Examination of the philosophical and biological basis for physical education.

525 Physical Education in Elementary Schools. (2). New concepts, recent trends, methodology, programming, and supervision. For the elementary teacher and physical education specialist.

533 Tests and Measurements in Physical Education. (3). Methods of test construction, critical analysis of published devices, utilization of tests.

540 Seminar in Advanced Methods. (2). Practical solutions for special problems in grading, discipline, programming administration, and motor learning.

550 Analysis of Motor Skills. (3). Techniques of analyzing fundamental motor skills. Selected mechanical principles; fundamental motor skills analyzed in terms of the stated mechanical principles. Prerequisite: P.E. 330.


SECONDARY EDUCATION

Upper Division Courses

311 & 312* Home Nursing for Instructors. (2-2). May not apply on secondary education requirements. Methods, procedures, and techniques for teaching home nursing, maternity, and infant care. Prerequisite: Registered Nurse (R.N.), home economics teacher.


A. ART EDUCATION IN THE SECONDARY SCHOOLS. (Same as Art Ed. 442.)

B. FIELD AND LABORATORY METHODS IN BIOLOGY.

D. METHODS OF TEACHING SPEECH AND DRAMATIC ART.

E. THE TEACHING OF ENGLISH.

Preparation for student teaching of English composition, grammar, and literature. Required of all English majors expecting to teach in junior and/or senior high schools, and strongly recommended for all English minors expecting to teach English in junior and/or senior high schools. Prerequisite: Completion of the requirements of the English Department for English majors and minors planning to teach English in junior and/or senior high schools.

F. THE TEACHING OF FOREIGN LANGUAGES.

Methods of teaching foreign languages, based on the audio-lingual approach and applied linguistics contrasted with traditional methods. Laboratory techniques, transition into reading and writing, planning, evaluation of student progress. Required of all foreign language majors expecting to teach in junior and senior high schools; strongly recommended for all minors expecting to teach.

I. METHODS OF TEACHING INDUSTRIAL EDUCATION. Selection and arrangement of teaching content, methods of teaching, lesson planning, courses of study, testing and grading shop work, evaluating pupil progress, securing industrial arts positions, and professional responsibility of the shop teacher.

M. METHODS IN PHYSICAL EDUCATION.

Presentation and participation in methods of teaching physical education. Emphasis on techniques, skills, organization of activities, and classroom procedure. For men only.

S. SPECIAL METHODS OF BUSINESS EDUCATION.

Prerequisite: Sec. Tr. 234 or Data Processing, Sec. Tr. 237, Acctg. 193 and 194.
W. METHODS OF PHYSICAL EDUCATION IN SECONDARY SCHOOLS.

Organization of activities in the curriculum; classroom procedures, evaluation techniques. Observation of selected classroom work. For women only.

Student Teaching

The student teaching semester is required of all those who are working toward a Secondary Certificate, and is a full-time assignment. Applications for approval to enroll in this program must be made to the Director of Student Teaching by the middle of the term prior to the semester of enrollment. In addition, students must obtain approval from the department in which they wish to student teach before placement will be considered.

It is expected that students will student teach in their field of major interest. However, individuals who are well prepared in more than one field may apply to student teach in a second field. Those desiring to student teach in two fields must take the special methods course in the second field before entering the student teaching semester.

The assignment for student teaching begins with the opening of the public school semester, and enrollments must arrange to meet from 8 to 5 daily and to be available for selected evening programs throughout the semester.

Credit for the student-teaching semester will be entered on the transcript according to the following distribution:

Sec. Ed. 445. Methods in Teaching. (4). (Two of the four hours may be earned in Sec. Ed. 442.)

Total — 16 semester hours.

450 Workshops in Education. (1 to 4).

Graduate Courses

556 Special Problems in Education. (1 to 4). Directed reading and research under supervision of a graduate instructor. Prerequisite: department consent.

557 Seminar in Secondary Education. (3).

SOCIAL AND PHILOSOPHICAL FOUNDATIONS OF EDUCATION

Lower Division Courses

232 Introduction to the Study of Teaching. (3). Public education in the United States: history, trends, organization and finance, curriculum, and purpose. Prerequisite: sophomore standing. Grade of "C" or better in English 111.

Upper Division Courses

425 History of Education. (3). Education's career in relation to other institutions (political, religious, etc.) in promoting and inhibiting social change.

426* Comparative Education. (3). Educational systems of selected nations in terms of their unique structures and pervasive problems.

427* Educational Sociology. (3). Sociology for teachers is conceived as the discipline which studies education and its place as one of the institutions of society. Attention is given to the contributions of sociology and anthropology to the understanding of human behavior. Prerequisite: Fd. Ed. 232. Not open to those who have had Fd. Ed. 428.

428 Social Aspects of the Teaching Process. (3). (See Secondary Student Teaching.) Not open to those who have had Fd. Ed. 427.

429* Philosophy of Education. (3). Focus on educational concepts, such as "mind," "discipline," "teaching," and their relation to philosophic systems.

449 Project in Educational Anthropology. (3). A course dealing with the basic concepts of anthropology and their application to social science units in elementary and secondary schools. Explores the nature of sub-cultures in American society and the problems they pose for the classroom teacher. A course for education majors and graduate students. (This course will also be listed as Anthropology 449.)


489* Theories of Knowledge and the Curriculum. (3). What does it mean to "know" in the various curriculum areas, and what methods and measurements are implied? Prerequisite: Fd. Ed. 429 or consent.

Graduate Courses

529* Educational Classics. (3). Depth study of master works, ancient and modern, in education. Prerequisite: consent of instructor; Prerequisite: 6 hours of Fd. Ed.

534* Basic Concepts of Citizenship. (3). Basic principles of citizenship as found in great treatises, are discussed in the context of the democratic American tradition. Prerequisite: 6 hours of Fd. Ed.

STUDENT PERSONNEL AND GUIDANCE

Upper Division Courses

423* Principles and Philosophy of Guidance (3). The development of a guidance philosophy and a survey and study of the several guidance services that are part of the modern elementary and secondary school guidance program. Prerequisite: Ed. Psy. 333 or 333, or equivalent.

440* Clinical Methods. (3). (Same as Psych. 401.) Prerequisite: Ed. Psych. 233 or 333.

Graduate Courses

593* Counseling Theory (2). A study of selected theories of counseling and personality with emphasis on the effects of a personal philosophy and value system in counseling. Prerequisite: SPG 425 or concurrent enrollment.

*Prerequisites may be waived for equivalent experience by department consent.
520* Occupational Information. (2). The classification, collection, evaluation, and use of information materials in a guidance program. Study of current occupational trends and developments, and theories of occupational choice. Prerequisite: SPG 423 or concurrent enrollment.

523* Psychometric Procedures in Counseling. (3). Survey and study of standardized tests and their application in counseling with an emphasis on their selection, use, and interpretation. Study of the basic concepts pertaining to the interpretation of psychological tests and inventories including basic measurement theory and the factors involved in the selection of tests. Prerequisite: SPG 423 or concurrent enrollment.

524 Techniques of Counseling. (3). Through simulated counseling situations and extensive examination of counseling case studies techniques of counseling are emphasized and practiced. Prerequisite: SPG 503.

533 Administration of Guidance Services. (2). Administration theory with emphasis for the SPG major on relating theory to the problem of administration of guidance services. Prerequisite: SPG 503.

555 Individual Intelligence Testing in the Public School. (3). Use of individual tests for appraisal of intelligence. Prerequisite: Consent of instructor.

556 Practicum in Counseling. (3). Supervised practice in counseling. Prerequisite: Consent of instructor.

557 Seminar in Guidance. (1). (May be repeated) Prerequisite: Consent of instructor.

575-576 Thesis. (2-2).

*Prerequisites may be waived for equivalent experience by department consent.
COLLEGE OF FINE ARTS
WALTER DUERKSEN, M.M., Dean

DEPARTMENT OF ART

The Department of Art offers professional courses designed to train and educate art students who are planning careers in the arts, and to allow students in other colleges to gain an understanding and appreciation of art.

Two undergraduate degrees are offered by the Department of Art: (1) The Bachelor of Fine Arts with major study in the following areas: Painting, Printmaking, Ceramics, Metallurgy, and Design. Minor study is available in Sculpture, Art History, Fashion Illustration. (2) The Bachelor of Art Education which includes the state requirements for secondary certification.

ADMISSION

All entering freshmen will be enrolled in the University College. Upon completing 24 semester hours of specified courses with a minimum grade point average of 1.7 or upon completing 64 or more semester hours with a minimum grade point average of 2.00 the student is eligible to enroll in the Department of Art.

Transfer students may enroll in the Department of Art if transcript indicates that student has completed a minimum of 24 semester hours with a grade point average of 2.00 or higher. Transfer students unable to meet this minimum requirement will be enrolled in University College until this requirement is met.

Freshmen who elect to major in art should indicate this on the Application for Admission form by placing a mark opposite the words “College of Fine Arts” and by writing the word “Art” directly below.

REQUIREMENTS

Bachelor of Fine Arts Degree

In addition to the scholastic and residence requirements for graduation from the University, candidates for this degree must complete the following: (1) A minimum of 80 hours of art generally distributed as follows: 22 hours in basic art courses, 58 hours in major and related professional areas. Specific requirements are on file in the Art Office. (2) General requirements for graduation are listed on p. 20.

Bachelor of Art Education Degree

Secondary Certificate by the State Board of Education

In addition to the scholastic and residence requirements for graduation from the University, candidates for this degree must complete the following: (1) A minimum of 49 hours of art, (2) 32 hours of teacher education to include 13 hours of art education, (3) General education: 50 hours of required courses in Liberal Arts plus 4 hours of physical activities. Specific requirements are on file in the Art Office.

Art Major or Minor for Students in the College of Liberal Arts and Sciences

Major: Students will complete 38 art hours. These hours will be distributed as follows: 200, 201, 202, 205, and 15 hours elected from 303, 401, 403, 460, 461, 462, 141 and 9 hours elected from 267, 271, 272, 275, 276, 295; or 142 and 9 hours elected from 279, 280, 281, 282, 285.

Minor: Students will complete 20 art hours. These hours will be distributed as follows: 141 or 142, 200, 202 and 9 hours of electives.

Specific graduation requirements of the College of Liberal Arts are listed on p. 35.

GENERAL REQUIREMENTS

The art courses which will fulfill the core curriculum requirements for graduation are the following: 200, 202, 203, 205, 310, 401, 461.

The Department controls all art work or essays submitted for credit by the student and reserves the right to select certain pieces for the permanent Art Department Collection.

All art materials, with the exception of certain permanent studio equipment, are furnished by the individual student.

ART COLLECTIONS OF THE UNIVERSITY

The Department of Art manages four collections of paintings, prints, sculpture, and pottery. The Art Department Collection which includes works by Marc Chagall, Johnny Friedlander, Goya, Stanley W. Hayter, and Anthony van Dyck as well as graduate and undergraduate student work. The Bloomfield Collection comprises an important group of paintings from such masters as Sir William Beechy, Thomas Cole, Sir Peter Lely, and examples from the schools of Hubert Robert and Jacob van Ruisdael. The Sprague Collection is made up of small prints and drawings by mid-western artists. The University Collection includes a wide range of 20th century American painting, sculpture, and pottery.

GRADUATE ART STUDIES

The Graduate School offers a program leading to a Master of Fine Arts or a Master of Arts. For information concerning requirements for entrance and curriculum see Art listings in the Graduate School Bulletin.

ART CURRICULUM

Lower Division Courses

141 Basic Art I. (5). A studio course in visual fundamentals as they apply to two dimensional art.
142 Basic Art II. (5). A studio course in visual fundamentals as they apply to three dimensional art.
200 Western Art I. (3). A survey tracing the history of Western art from prehistoric origins to the 15th century.

202 Western Art II. (3). A survey of Western art from the 14th century through the mid 19th century.

241 Art Education in the Elementary School. (3). (See FS Art Education 241.)

242 Handcraft Methods. (3). (See Art Education 242.)

267* Life Drawing I. (3). Drawing from life with emphasis on figure construction. Anatomy sketchbooks required. Prerequisite: Art 141.


272* Painting II. (3). An introduction to watercolor painting in both transparent and opaque media. Prerequisite: Art 141.

275* Printmaking I. (3). Basic intaglio methods (etching, engraving, soft ground, aquatint, and mixed techniques). Prerequisite: Art 141.

276* Printmaking II. (3). Basic intaglio methods and introduction to relief printing. Prerequisite: Art 141.

279* Metalsmithing I. (3). Design and construction problems in metals. Stress placed on basic metalsmithing methods. Prerequisite: Art 142.

280* Metalsmithing II. (3). Design and construction problems in metals. Stress placed on basic metalsmithing methods, lapidary and enameling. Prerequisite: Art 142.

281* Ceramics I. (3). Experience in hand building, wheel throwing, glazing, and firing of the kiln; ceramic textures. Prerequisite: Art 142.

282* Ceramics II. (3). Experience in wheel throwing, glazing, and firing of the kiln. Prerequisite: Art 142.


295* Lettering (3). A study of hand lettering and type. Emphasis on formation of characters, spacing, and techniques of professional lettering for advertising. Prerequisite: Art 141.


Upper Division Courses

303 American Art. (3). The history of American art from 1700 to the present.

305 Primitive and Oriental Art. (3). A survey of architecture, painting, and sculpture.

310 Inter-related Arts. (3). (See English 310.)

367 & 368* Life Drawing II & III. (3-3). Continuation of Art 267. Prerequisite: Art 267.


375* Printmaking III. (3). Introduction to lithography; intaglio and combined printmaking techniques. Prerequisite: Art 275 or 276.

376* Printmaking IV. (3). Optional or combined printmaking techniques, black and white and color. Prerequisite: Art 276 or 276.

379* Metalsmithing III. (3). Jewelry making, raising, forming, and casting in silver. Exploration of processes of working precious metals. Prerequisite: Art 279 or 280.

380* Metalsmithing IV. (3). Continuation of Art 379. Prerequisite: Art 279 or 280.

381* Ceramics III. (3). Special emphasis on the chemistry of glazes and clay bodies. Prerequisite: Art 281 or 282.

382* Ceramics IV. (3). Continuation of Art 282. Prerequisite: Art 281 or 282.

385 & 386* Sculpture II & III. (3-3). Execution of major projects in wood, stone, metal and clay. Prerequisite: Art 285.

387 & 388* Fashion Illustration I & II. (3-3). Development of the fashion figure for use in advertising. Interpretation of varied textures of furs, fabrics, leathers, etc. Problems in layout peculiar to fashion advertising. Work in media for newspaper and magazine reproduction. Prerequisite: Art 267, 272, and 297.


397* Advertising Illustration I. (3). A study in the techniques of illustration as used in the contemporary communicative arts; practical problem-solving. Prerequisite: Art 267, 272, and 297.

398* Delineation. (3). Theory of one, two, and three-point perspective, followed by extensive application involving background, objects, and figures. Examination and exploration of the artist's materials. Prerequisite: Art 141.

401 The Renaissance. (3). The schools of architecture, painting, and sculpture.

403 Latin American Art. (3). A survey of the arts of Spanish and Portuguese America from 1490 to 1940.

405 Special Art Project. (2 or 3). For qualified upper division art students. Consists of an original research project in the Fine or Applied Arts. May be repeated once for credit.

406 Art Curricular and Supervision Method. (3). (See S Art Education 406.)

442 Art Education in the Secondary School. (4). (See F Art Education 442.)

460 Contemporary Art I. (3). Architecture, painting, sculpture, and minor arts of the 19th century.

461 Contemporary Art II. (3). Architecture, painting, sculpture, and minor arts of the 20th century.

467 & 468* Advanced Drawing I & II. (3-3). Drawing in any medium, field and studio work. Group criticism. Prerequisite: Art 367 or 368.

471 & 472* Painting V & VI. (3-3). Continuation of Art 272. Prerequisite: Art 271 and 272.

475 & 476* Printmaking V & VI. (3-3). Continuation of Art 375 and 376. Specialization in the use of combined methods in color printing and in black and white. Prerequisite: Art 276 or 276.

479 & 480* Metalsmithing V & VI. (3-3). Continuation of Art 380. Advanced projects in design and construction of forms in silver and other metals. Prerequisite: Art 279 or 280.

481 & 482* Ceramics V & VI. (3-3). Continuation of Art 382. Prerequisite: Art 281 or 282.

485* Sculpture IV. (3). Continuation of Art 386. Pre-F requirement: Art 285.

487 & 488* Fashion Illustration III & IV. (3-3). Continuation of Art 388. Prerequisite: Art 267, 272, and 297.

493 & 494* Advertising Design III & IV. (3-3). Continuation of Art 394. Prerequisite: Art 393.

497* Advertising Illustration II. (3). Continuation of Art 397. Prerequisite: Art 397.

Graduate Courses

500 Methodology in Art Research. (3). Investigational procedures in art research; significant ideas and directions in art literature; principles of thesis writing; research design and creative thesis project.

503 & 504 Research Problems in Art History and the Philosophy of Art. (1-5, 1-5).

505 & 506 Special Problems in Painting. (1-5, 1-5).

507 & 508 Special Problems in Printmaking. (1-5, 1-5).

509 & 510 Special Problems in Sculpture. (1-5, 1-5).

511 & 512 Special Problems in Ceramics. (1-5, 1-5).

513 & 514 Special Problems in Silversmithing. (1-5, 1-5).

515 & 516 Special Art Project. (1-5, 1-5).

517 & 518 Special Problems in Art Education. (1-3, 1-3).

520 Seminar in Art Education. (3).

570 Seminar in Advanced Criticism. (3).

S 575 & 576 Thesis. (2-2).

SCHOOL OF MUSIC

Walter Duersken, M.M., Dean

The School of Music provides courses, programs, and curricula which are designed to train and educate serious music students who are planning careers in the music profession, and to allow students in other colleges to gain an understanding of music as a humanistic study. Recitals by students, faculty, and guests, augment the over-all community programs in the Fine Arts. The School of Music is an accredited member of the National Association of Schools of Music. Requirements for entrance and graduation are in accordance with its published regulations.

Two undergraduate degrees are offered by the School of Music: (1) The Bachelor of Music Education degree contains a minor in education meeting the state requirements for the secondary three year certificate and degree three year elementary certificate. An option within this degree is the Bachelor of Music Education degree, Vocal Emphasis, which is offered to satisfy the needs of the student whose chief performing medium is voice or piano, and who plans to enter the field of vocal music teaching in the public schools; (2) The Bachelor of Music degree may emphasize piano, organ, voice, orchestral and band instruments, or theory as the major area of concentration.

REQUIREMENTS

Admission

All entering freshmen will be enrolled in the University College. Upon completing 24 semester hours of specified courses with a minimum grade point average of 1.70 the student is eligible to enroll in the School of Music; students transferring with 64 or more semester hours must have earned a 2.00 grade point average.

Out-of-state residents must have an overall minimum grade point average of 2.000 (C) or higher to qualify for admittance.

Transfer students may enroll in the School of Music if transcript indicates that student has completed a minimum of 24 semester hours with a grade point average of 2.000 (C) or higher. Students with grade average of 1.700 and less than 2.000 may petition for admittance to the School of Music. Transfer students who do not meet this minimum requirement will be enrolled in the University College until this requirement is met.

Majors in music must demonstrate performance ability on one instrument or voice to the satisfaction of the music examining committee following registration.

Entering students unable to meet applied music requirements will be enrolled in Applied Music 10 until they attain proficiency necessary to meet the requirements of Applied Music 11. Prospective students are urged to contact the School of Music office with regard to dates when ACT and other tests will be administered. The results of these tests are utilized for counselling purposes.

Freshmen who elect to major in music should indicate this on the Application for Admission form by placing a mark opposite the words "College of Fine Arts," and by writing the word "Music" directly below. This will provide the student with a faculty advisor from the School of Music staff.

For additional details write to the School of Music, Wichita State University, Wichita 8, Kansas.

Proficiency Examinations

In order to determine the status of all students of applied music, proficiency examinations will be given following the registration period. Thereafter, repertoire cards will be maintained, recording the student's
G. Electives in upper division Theory, Conducting or Choral Materials 4 hours

H. Ensembles 12 hours

I. Senior Recital 1 hour

J. Attendance at specified number of recitals per semester for 7 semesters plus senior recital.

Bachelor of Music Education Degree Requirements

1. The following program fulfills both the University general graduation requirements and Kansas state certification requirements and is required of all Bachelor of Music Education degree candidates enrolled in the instrumental/vocal emphasis program.

I. Mathematics and Natural Sciences 10 hours
   A minimum of 4 hours must be a laboratory science. Must include courses from both the biological and physical science fields, after which mathematics may be elected to reach 10 hours.

II. Communications 8 hours
   English 111 & 211, 6 hrs.; Speech 111, 2 hrs.

III. Humanities 17 hours
   Fine Arts: Music 113, 331 & 332 7 hours
   History 5 or 4 hours
   (If student elects a 3 hour course, an additional 2 hour course in social sciences is required), and may be counted as an elective under "VI."
   Literature (English or foreign) 6 hours

IV. Social Sciences 9 hours
   Economics 221 or Political Science 100, 121, or 211 3 hours
   Psychology 111 3 hours
   Sociology and Anthropology 111 or 124 3 hours

V. Physical Activities 4 hours
   Air Science, Military Science, Physical Education, or Marching Band (4 hrs. in Marching Band required of all wind and percussion majors). At least 2 hrs. must be in one subdivision.

VI. Electives in non-music courses 3 hours
   To be selected from areas I to IV above.

VII. Education 31 hours
   Ed. Psych. 333, 433* 6 hours
   Pd. Ed. 252 and 268 6 hours
   Special Methods: Music Ed. (Elementary) 201, 302* and 303 (201 and 303 must be completed before student-teaching); or (Secondary) 203, 304* and 301 (203 and 301 must be completed before student-teaching). In addition, 6 hours of instrumental music methods 13 hours
   Elementary Education 447* 3 hours
   Secondary Education 447* 3 hours

VIII. Music 50 hours
   Applied Music
   Chief performing medium 8 hours
   Second performing medium 4 hours
   Third performing medium 4 hours
   Theory: Music 127-128, 227-228, 323, 441 or 445 16 hours
   Conducting: Music 217 or 218 and 451 or 491 4 hours
   Ensembles 14 hours
   (Football Band may be counted either as an ensemble or as physical education, but not both).
   Recital attendance for 7 semesters plus senior recital.

**History of music:
   Music 331 & 332 5 hours

Bachelor of Music Education (Vocal Emphasis)

The following program is required of all Bachelor of Music Education degree candidates (Vocal Emphasis):

1. 50 semester hours of music from the following courses:

A. Applied Music 16 semester hours
   Chief performing medium, minimum
   Piano 22 or Voice 22 8 semester hours
   Second performing medium, minimum
   Piano 29 or Voice 29 4 semester hours
   Applied Music Electives 4 semester hours

B. Theory
   127-128 6 semester hours
   227-228 6 semester hours
   323 2 semester hours
   445 2 semester hours

C. Conducting
   217 or 218 and 451 or 491 4 semester hours

D. Ensembles 10 semester hours

E. Music Electives 4 semester hours

F. Recital attendance for 7 semesters plus senior recital.

*Music 331 or 382 required of piano majors; Music 484 required of string majors. Music 397 and 398, 497 and 498 required of organ majors.

**Study in another instrument may be substituted if student meets proficiency in Piano 22.
2. 51 semester hours of general education (including
   5 hours of music history and 2 hours of music
   literature).

3. 27 semester hours of professional education (in-
   cluding 7 hours of music education plus two hours
   of instrumental music methods).

General Music Requirements

1. For a student studying in his chief performing
   medium, participation in a studio recital is ex-
   pected each semester when that student attains
   an Applied Music classification of 11 or above.

2. Attendance is required for a specified number of
   recitals and concerts sponsored by the School of
   Music. The recital requirements for each semester
   are specified at the first recital following regis-
   tration.

3. Seniors will be required to attend 10 specified re-
   citals during the semester in which they are en-
   rolled in student teaching.

4. Each student shall be required to declare a per-
   formance medium, and in this major area he shall
   be required to present a public or jury recital.
   A jury recital is performed before at least 3 fac-
  ulty members.

   Each student is to present to an examining com-
   mittee, at the end of his junior year, a projected
   senior recital program. It shall be the function of
   the examining committee to determine at this time:
   (1) the suitability of the projected program;
   (2) the capability of the student to perform this
   program publicly; or (3) whether this program
   shall be performed before a faculty jury.

5. Music education students should plan on one sum-
   mer's work to enable them to realize full benefits
   of the four-year curriculum. Students majoring
   in this field are encouraged to continue the study
   of their chief performing medium during the full
   four years.

6. A specified number of ensembles is required of all
   students according to degree requirements de-
   scribed above. Specific ensembles must be sched-
   uled in consultation with faculty adviser.

   Although eight hours is the minimum requirement
   for an applied major, it is understood that no grad-
   uating senior may prepare or perform the graduation
   recital without the guidance of a full-time staff
   member. In the event the eight hours are earned prior
   to the recital presentation, the student is expected
   to audit the applied major during preparation for
   recital performance.

7. Prior to graduation, candidates in various phases
   of applied music must pass an examination on the
   list of materials from the outline below:

   A. Candidates for the degree of Bachelor of Music
      Education must pass an examination in Piano
      10 not later than their sophomore year; pass

   *These courses to be taken concurrently during the student-teaching
   semester.

   **Utilized to fulfill music and humanities requirements.

   an examination in the chief performing medium
   on the materials listed under Piano 22, Organ
   22, Voice 22, Band and Orchestral Instruments
   22; second and third performing mediums,
   Piano 10, Organ 10, Voice 10, or Band and
   Orchestral Instruments 10. Total number of
   hours of applied music shall equal 16. Minimum
   applied music requirements are as follows:
   Voice Majors — Voice, 8 hours; Piano, 4 hours;
   Instrument, 4 hours. Piano or Organ majors
   — Piano or Organ, 8 hours; Voice, 4 hours;
   Instrument, 4 hours. Instrumental majors —
   Instrument, 8 hours; Piano, 4 hours; Voice,
   4 hours.

B. Candidates for the degree of Bachelor of Music
   must, before graduation, be classified as follows:
   Vocal majors — Voice 42 and Piano 22.
   Piano or Organ majors — Piano 42 or Organ 42,
   and Secondary Medium 22.
   Instrumental majors — Major instrument 42.
   and Secondary Medium 22.

GRADUATE MUSIC STUDIES

The Graduate School offers a program leading to a
Master of Music Education or a Master of Music de-
gree in Performance or Theory. This program may be
pursued during the summer session or during the regu-
lar fall and spring terms. For information concern-
ning requirements for entrance and curriculum consult
the Director of Graduate Music Studies, School of
Music, Wichita State University.

APPLIED MUSIC REGULATIONS

A minimum of 10 hours practice per week is required
for 2 semester hours credit for applied music in the chief
performing medium. Practice rooms are available to all
students in the School of Music who are enrolled for any
phase of applied music. For practice room fees see depart-
mental fees, page 16.

1. Applied music instruction at the college level shall be
   on the University campus with approved music faculty
   staff.

2. Any credit for applied music requested on the basis of
   transfer from other institutions shall be subjected to
   the normal routine of the Committee on Admissions,
   Advanced Standing, and Exceptional Programs.

3. Any request for credit for applied music on the basis of
   instruction received from private teachers shall be sub-
   ject to the customary examination for proficiency on
   the part of the student.

Curriculum for Piano Majors

Piano 10. (2 to 4). The student should be able to read at
sight hymn tunes and folk songs and be able to play
accompaniments of average difficulty; all major and
minor scales, arpeggios, and suggested material to be
assigned by the instructor taken from technical stud-
ies and standard repertoires.
Piano 11-12. (2 to 4 — 2 to 4). First course for the student who enrolls with piano as a major study. Students admitted by examination only. Suggested quality of material: Bach, Two-Part Inventions or French Suites; Beethoven, Sonata Op. 2 No. 1, Op. 14 No. 1; Chopin, easier Waltzes, Mazurkas, Nocturnes, etc. Studies and technical material adapted to the needs of the students.

Piano 20. (2 to 4). Course designed for choral majors. Special emphasis is placed on developing skill in reading vocal accompaniments and choral scores.


Piano 31-32. (2 to 4 — 2 to 4). The student should have acquired a technique sufficient to play arpeggios and scales in parallel and contrary motion in rapid tempo. Technical materials and studies adapted to the needs of the student. Suggested quality of materials: Bach, Well Tempered Clavier; Beethoven, Sonata Op. 31 No. 2; Chopin, Etudes, Ballades; Brahms, Rhapsodies. Selected works of modern and contemporary composers.

Piano 41-42. (2 to 4 — 2 to 4). Senior Recital. Must have had considerable experience in ensemble, and be capable sight reader. Quality of material: Bach, Partitas, Transcriptions; Beethoven, later Sonatas such as Op. 53, Op. 57, or a concerto; larger works of Brahms, Chopin, Ravel or Debussy.

**Curriculum for Violin Majors**

Violin 10. (2 to 4). Studies selected from the following: Kayser, Wohlfahrt, Laevoeux, Dout; scales and arpeggios in all keys in the first position; detailed study of shifting and positions; special bowing studies; Concertos by Sitt, Rieding, Seitz, DeBeriot, etc.; compositions of intermediate difficulty in the lower positions.

Violin 11-12. (2 to 4 — 2 to 4). Studies chosen from the following: Sevcik, DiJanni, Schradieck, Kreutzer, Hoffman; advanced scale and arpeggio technique; detailed study of double stops; Sonatas by Handel, Tartini, Corelli, Veracini; Concertos by Kreutzer, Rode, Viotti; single compositions of a more advanced nature.

Violin 21-22. (2 to 4 — 2 to 4). Rode and Fiorillo Etudes. Flesch scale studies; corrective exercises from DiJanni; Concertos by Spohr, Mendelssohn, Bach, Vivaldi; Sonatas by Beethoven, Mozart; short numbers by romantic and modern composers.

Violin 31-32. (2 to 4 — 2 to 4). Etudes by Dout, Rode, Wieniawski; continuation of Flesch and DiJanni scale studies; Concertos by Mozart, Wieniawski; Vieuxtemps; Sonatas by Mozart, Beethoven, Grieg, etc., concert pieces of Sarasate, Wieniawski, Vieuxtemps, Brahms, and modern composers.

Violin 41-42. (2 to 4 — 2 to 4). Bach solo sonatas; Sonatas by Schumann, Brahms, modern American composers; Concertos by Saint-Saens, Ives, Bruch, Tchaikovsky, Brahms, etc.; extensive review of program material. Senior recital.

**Curriculum for Band and Orchestral Instrumental Majors**

Band and Orchestral Instruments 10. (2 to 4). Ability to demonstrate proficiency equivalent to standards in other applied music subjects. Specific requirements are on file in the music office.

Band and Orchestral Instruments 11-12, 21-22, 31-32, 41-42. (2 to 4 — 2 to 4 each). Chief performing medium is offered on the following instruments: trumpet, French horn, trombone, percussion, baritone, tuba, flute, oboe, bassoon, clarinet, saxophone, violin, viola, cello, string bass, and harp. An outline of all courses is on file in the music office.

**Curriculum for Voice Majors**

Voice 10. (2 to 4). The student must demonstrate (1) his ability to sightread simple melodies, (2) a pleasing and promising tone quality, (3) satisfactory ability of intonation, (4) ability to sing one or more songs with proper interpretation.

Voice 11-12. (2 to 4 — 2 to 4). Posture, breathing, tone production, diction, interpretation, ability to sing required songs with a well-produced tone, good intonation, clear diction, and musical interpretation.


Voice 21-22. (2 to 4 — 2 to 4). More advanced technical studies; remedial training as needed.

Voice 31-32. (2 to 4 — 2 to 4). Continued technical development.

Voice 41-42. (2 to 4 — 2 to 4). Higher standards of performance in technique and interpretation. Bachelor of Music students will prepare a full recital program. Bachelor of Music Education students will prepare a portion of a recital program.

**Curriculum for Organ Majors**

Organ 11-12. (2 to 4 — 2 to 4). Organ major students must demonstrate piano proficiency. The student must continue piano study if advised by the instructor. Technical study will be based on Barnes' School of Organ Playing and Dupre's Seventy-Nine Chorales. Study will include the works of the pre-Bach period and the shorter preludes and fugues of J. S. Bach.

Organ 21-22. (2 to 4 — 2 to 4). Study will concentrate on the works of J. S. Bach. The pre-Bach composers will be continued, and other material will be used as advised by the instructor. The Liturgical Year of J. S. Bach will receive special emphasis.

Organ 31-32. (2 to 4 — 2 to 4). Study of the trio sonatas of J. S. Bach will begin, and further work will include the organ sonatas of Mendelssohn and shorter works by Cesar Franck.

Organ 41-42. (2 to 4 — 2 to 4). Senior recital. The study of Bach will continue with the trio sonatas and the larger preludes and fugues. The larger works of Franck, and compositions by Brahms and Reger will be introduced. Selected contemporary music by such composers as Sowerby, Dupre, and Messiaen will be used.
MAJOR. Prescribed courses leading to the degree of Bachelor of Music and Bachelor of Music Education are found on page 92. These schedules must be followed without deviation except by permission of the Dean of the College of Fine Arts.

Music 111-112, 211-212, 311-312, 411-412 (Ensemble), either vocal or instrumental, is a laboratory requirement to complete applied music. Each music student is required to participate in a minimum of specified combinations of the following: (A) orchestra, (B) band, (C) university chorus, (E) chamber music performance, (F) university singers and A Cappella Choir, (G) string ensemble, (H) Brass ensemble, (J) Piano accompaniment, (K) opera theater, (L) small vocal ensemble, (M) football band, (N) Woodwind ensemble, (P) piano repertoire, (Q) percussion ensemble, (R) organ repertoire, (S) string repertoire.

Lower Division Courses

111-112, 211-212 Ensemble. (1-1). (A) orchestra, (B) band, (C) university chorus, (E) chamber music performance, (F) university singers and A Cappella Choir, (G) string ensemble, (H) brass ensemble, (J) piano accompaniment, (K) opera theater, (L) small vocal ensemble, (M) football band, (N) woodwind ensemble, (P) piano repertoire, (Q) percussion ensemble, (R) organ repertoire, (S) string repertoire.

113-114 Introduction to Music Literature. (2-2). Survey of the vocal and instrumental music which has become basic for the background of the serious music student. Designed for music majors or student with advanced music background.

127-128 Music Theory. (3-3). Part writing from figured basses and given soprano, using triads and seventh chords in all inversions. Sight singing and ear training is integrated in this course of study as well as original work in elementary composition.

135 Methods of Teaching Orchestral Instruments (violin and viola). (1). (See Music Education 135.) Band and Orchestra Laboratory.

136 Methods of Teaching Orchestral Instruments (cello and string bass). (1). (See Music Education 136). Band and Orchestra Laboratory.

137 Methods of Teaching Band and Orchestral Instruments (clarinet and saxophone). (1). (See Music Education 137.) Band and Orchestra Laboratory.

138 Methods of Teaching Band and Orchestral Instruments (flute and double reed). (1). (See Music Education 138). Band and Orchestra Laboratory.

139 Methods of Teaching Band and Orchestral Instruments (brass). (1). (See Music Education 139.) Band and Orchestra Laboratory.

140 Methods of Teaching Band and Orchestral Instruments (percussion). (1). (See Music Education 140.) Band and Orchestra Laboratory.

161 Music Appreciation. (2). Includes representative works taken from classical, romantic, and modern schools. Designed to bring about understanding of music. For the non-music major. Special attention given to aesthetic principles of listening and musical form.

200 Elementary School Music. (3). (See Music Education 200.)

201 Fundamentals of Music for the Elementary School. (2). (See Music Education 201.)

203 Fundamentals of Music for the Secondary School. (2). (See Music Education 203.)

217 Instrumental Conducting. (2). Fundamentals of baton technique, elementary score-reading, and musical leadership. Practical experience in conducting laboratory and classroom groups.

218 Choral Conducting. (2). Fundamentals of choral conducting technique, score reading, group psychology. Practical experience in conducting choral organizations.

227-228 Music Theory. (3-3). Harmony based on the style of the 18th to the 20th centuries; modulation, altered chords, original work emphasizing the smaller forms. Prerequisite: Music 128.

Upper Division Courses

301 Survey of Elementary School Music. (3). (See Music Education 301).

302 Advanced Techniques in Elementary School Music. (2). (See Music Education 302).

303 Survey of Secondary School Music. (3). (See Music Education 303).


310 Inter-related Arts. (3). Inter-departmental course presenting an aesthetic analysis of three arts. The course will emphasize style in the three arts. (See English 312.)

311-312, 411-412. Ensemble. (1-1). (A) orchestra, (B) band, (C) university chorus, (E) chamber music performance, (F) university singers and A Cappella Choir, (G) string ensemble, (H) brass ensemble, (J) piano accompaniment, (K) opera theater, (L) small vocal ensemble, (M) football band, (N) woodwind ensemble, (P) piano repertoire, (Q) percussion ensemble, (R) organ repertoire, (S) string repertoire.

315 Music of the Twentieth Century. (2). An aesthetic approach to music of this century, its major composers, stylistic and formal characteristics. Designed primarily for the non-music major who has musical interest and background. May be elected by the music major. Prerequisite: Music 113, or 114, or 161, or Hum. 102, or Engl. 310, or consent of instructor.

316 Music of the Symphonic Masters. (2). An advanced course in the great orchestral literature covering the development of the symphony orchestra and its music from the 18th century Mannheim School to the present. Designed primarily for the non-music major who has musical interest and background. May be elected by the music major. Prerequisite: Music 113, or 114, or 161, or Hum. 102, or Engl. 310, or consent of instructor.

323 Form and Analysis. (2). The elements of structure, form, and design in musical composition. Prerequisite: Music 228.

331 History of Music from Antiquity through the Renaissance. (2). 2R; 1L. An intensive survey of the de-
velopment and evolution of musical styles and practices in Western civilization from ancient times to 1600. Lectures, reference readings, and the study of representative music of the various periods and composers. (Fall semester only.) Prerequisite: Music 228 or consent of instructor.

332 History of Music from the Baroque to the Present. (3). A continuation of Music 331. (Spring semester only.) Prerequisite: Music 228 or consent of instructor.

337 Advanced Techniques in Woodwind Methods. (1). Special problems and techniques in the teaching of woodwind instruments. Survey of current materials. Prerequisites: Music 137 and 138, or equivalent.

339 Advanced Techniques in Brass Methods. (1). Special problems and techniques in the teaching of brass instruments. Survey of current materials. Prerequisite: Music 139 or equivalent.

340 Advanced Techniques in Percussion Methods. (1). Special problems and techniques in the teaching of percussion instruments. Survey of current materials. Prerequisite: Music 140 or equivalent.

361 18th Century Counterpoint. (2). Contrapuntal devices of the 18th century as found in the works of J. S. Bach. Prerequisite: Music 228.

371 19th Century Harmony. (2). The harmonic techniques of the 19th century. Prerequisite: Music 323 or concurrent enrollment or department consent.

372 20th Century Analysis. (2). The composition techniques of the 20th century composers. Prerequisite: Music 323 or concurrent enrollment or department consent.

381 & 382 Piano Materials. (2-2). Discussion and analysis of suitable materials for teaching at elementary, intermediate, and advanced levels.

397 Organ Literature of the 16th-18th Centuries. (2). An intensive survey of the literature of the instrument. Discussion and performance of the works by students and professor. Prerequisite: Music 228 or department consent.

398 Organ Literature of the 19th and 20th Centuries. (2). An intensive survey of the literature of the instrument. Discussion and performance of the works by students and professor. Prerequisite: Music 228 or department consent.

425 Voice Pedagogy. (2). Designed for voice majors to acquaint them with methods appropriate for private and class instruction.

426 Voice Repertoire. (3). A comprehensive survey of vocal literature and its suitability for different voices. Survey includes early Italian arias, French chansons, German Lieder, art songs, and contemporary literature. Primarily designed for those interested in teaching singing.

430 (Music or Music Education) Pedagogy of Theory. (2). Teaching of music theory, including analysis and evaluation of the many texts available to the theory teacher. Planned course of study for various levels of instruction. Prerequisite: Music 323.

432 (Music or Music Education). Teaching of Music Literature. (2). Designed for the teacher preparing to teach music literature or appreciation. Aesthetic principles in music listening related to the other fine arts, and their application to various levels of teaching. Prerequisite: consent of instructor.

441 Orchestration. (2). Scoring for string quartet and string orchestra, brass and woodwind trios, quartets, quintets, and sextets, small and full orchestra, and band. Prerequisite: Music 228.

445 Choral Arranging. (2). Scoring for vocal ensembles. Prerequisite: Music 228.

451 Advanced Conducting & Score Reading. (2). Baton technique, score reading, musicianship. Prerequisite: Music 217 or 218.

452 Choral Materials. (2). Study of choral materials and methods applicable to the music-education program.

459-460 Composition. (2-2). Original work in the large forms. Prerequisite: Music 323, or department consent.

461 16th Century Counterpoint. (2). Analysis and application of the contrapuntal composition-techniques of the 16th century. Prerequisite: Music 228.

472 Contemporary Musical Thought in Music Education. (2). A consideration of imaginative and effective techniques of presenting contemporary musical concepts to all age levels in public school music. Prerequisite: Music 323 and consent of instructor.

482 Marching Band Techniques. (2). Study and analysis of current formations and pageantry for the marching band. Prerequisite: consent of the instructor.

484 String Teaching Seminar. (2). (See Music Education 484).

487 Piano Pedagogy. (2). A detailed study and analysis of the problems related to performing and teaching representative works of piano literature. Prerequisite: consent of instructor.

491 Advanced Choral Conducting. (2). Fundamental problems of choral conducting. Choral performance, analysis, and study of significant styles of choral composition. Prerequisite: Music 217 or 218.

492 Band Organization and Administration. (2). Problems of organization and administration particularly relevant to the band programs in the field of music education. Band pageantry.

497-498 Church Music Practicum. (2-2). A course concerned with practical matters and problems which face the church musician. Practice under conditions similar to actual situations. Prerequisite: Organ 12 performance standing.

Graduate Courses

505 Applied Music. Taken in fulfillment of graduate music degree.

511-512 Ensemble. (1-1). (A) orchestra, (B) band, (C) university chorus, (E) chamber music performance, (F) university singers and A Cappella Choir, (G) string ensemble, (H) brass ensemble, (J) piano accompaniment, (K) opera theater, (L) small vocal ensemble, (M) football band, (N) woodwind ensemble, (P) piano repertoire, (Q) percussion ensemble, (R) organ repertoire, (S) string repertoire.

521 Elementary Music Supervision. (3). (See Music Education 521.)
530 Seminar in Music Theory. (3). An analytical study of the materials used in musical composition from the pre-Renaissance era to the present. Compositions of representative composers of each period will be analyzed harmonically, stylistically, and formally. The individual student will analyze music in his own medium culminating with a presentation before the class. From these presentations an overall synthesis of the compositional procedures of each period will be made. Stress will be laid on the areas in which the individual student is weakest, and that will benefit the class as a whole. This course is designed primarily to develop an analytical perspective rather than to develop compositional skills.

531 Developing the Child's Musical Understanding. (3). (See Music Education 531). Definition of understandings necessary for the attainment of musical awareness in the young child. Exploration of classroom experiences directed toward the successful development of these understandings through the application of basic learning principles.


541-542 (Music or Music Education). Special Project in Music. (1-3—1-3). Individually supervised study or research with emphasis upon the personal needs of the student. Prerequisite: consent of instructor.


551 (Music or Music Education). Psychology of Music. (2). Adapte to the viewpoint of the music educator. Emphasis on physics of sound, psychology of performance, and teaching. Aesthetic principles of listening. Prerequisite: consent of instructor.

552 Introduction to Graduate Study. (3). Techniques of research. Development of bibliography. Reports adapted to the needs of individual class members.

554 Research Seminar in Music Education. (3). Continuing application of techniques of research. Completion of a major research project. Prerequisite: Music 552.

559-560 Advanced Composition (2-2). Original work in the large forms. Continuation and expansion of 459-460. Prerequisite: Music 460.

572 Modern Music in the Modern School. (3). An historical-analytical survey of standard contemporary literature; consideration of creative approaches to the use of contemporary techniques; laboratory experiences exploring methods of teaching contemporary music at all levels of public school education. Prerequisite: Consent of instructor.

573-574 Graduate Recital. (2-2). Performance of a full recital featuring the chief performing medium. Prerequisite: consent of instructor.

575 (Music or Music Education). Thesis Research. (2).

576 (Music or Music Education). Thesis. (2).

591-592 Seminar in Music History. (3-3). Areas of interest in music history will be developed as fully as time and graduates' interest permit. No effort at a chronological survey will be made—rather the ideas evoking the most interest, and considered by the instructor to be of the greatest professional benefit, will be taken when interest warrants. Prerequisites: 331 and 332 or consent of instructor.
SCHOOL OF ENGINEERING

CHARLES V. JAKOWATZ, Ph.D., Dean

The curricula of the School of Engineering lead to the degrees of Bachelor of Science in Aeronautical Engineering, Bachelor of Science in Electrical Engineering, Bachelor of Science in Industrial Engineering, Bachelor of Science in Mechanical Engineering, and Master of Science.

The programs in Engineering are offered in daytime and evening classes. The courses are the same whether they are taught in the daytime or at night. The curricula on the following pages are arranged for full-time day course sequences, but contain the requirements for the degrees whether day or night classes are attended.

The curricula (both day and night programs) of the Departments of Aeronautical Engineering, Electrical Engineering and Mechanical Engineering have been accredited by the Engineers' Council for Professional Development.

Programs leading to the Master of Science Degree are offered in the Departments of Aeronautical, Electrical and Mechanical Engineering.

ENTRANCE REQUIREMENTS

Students entering the School of Engineering from University College must (1) have completed E. G. 109, (2) have completed Math. 142, (3) have 24 or more credit hours, (4) not be on probation.

PROBATION

1. A student will be placed on probation for the next term in which he enrolls if his cumulative grade point index falls below the following levels:
   a. 1.700 if the student has earned 1 to 63 credit hours.
   b. 2.000 if the student has earned 64 or more credit hours.

2. Probation is removed when the cumulative grade point index reaches the required level.

3. The student remains on probation if he earns at least a 2.000 index in the term during which he is on probation and his cumulative grade point index does not yet meet the minimum standards.

4. A student on probation may not enroll for more than 12 semester hours in an eighteen week term or ¾ as many hours as the number of weeks for which he is enrolled in the summer term, plus one hour of military or air science, physical education, or marching band. Exceptions to this limitation may be made on recommendation of the student's advisor with the approval of his Dean. Such exception is to be recorded by the Committee on Admission, Advanced Standing, and Exceptional Programs.

CURRICULA

Each of the curricula consists of three parts: (1) the General Requirements of the University, (2) an "Engineering Core" program, and (3) specialized department courses. The requirements are:

Mathematics .................................. 16 hours
Physical Sciences ............................. 21 hours
Engineering Sciences .......................... 49 hours
Engineering Department Courses .............. 22 hours
Physical Activities ............................ 4 hours
Total Requirements ............................ 144 hours

The recommended sequence of courses for all engineering students is outlined below. This sequence has been planned for completion of the program in minimum time and to satisfy all prerequisites. Any deviation from this sequence should be discussed with the faculty advisor.

COMMON SEQUENCE OF COURSES

FRESHMAN YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl. 111, College English</td>
<td>3</td>
</tr>
<tr>
<td>Math. 142, Intro. Analysis I</td>
<td>6</td>
</tr>
<tr>
<td>Speech 111, Ext. Speaking</td>
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<tr>
<td>E. G. 109, Graphics I</td>
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Second Semester

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<tbody>
<tr>
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<tr>
<td>Math. 243, Intro. Analysis II</td>
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<tr>
<td>E. G. 110, Graphics II</td>
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<tr>
<td>Phys. 243f, Gen. College Physics</td>
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SOPHOMORE YEAR

First Semester

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<th>Course</th>
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<tbody>
<tr>
<td>Chem. 111, General Chemistry</td>
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<tr>
<td>Math. 244, Intro. Analysis III</td>
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<tr>
<td>Phys. 244f, Gen. College Physics</td>
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<tr>
<td>E. G. 213, Graphics III</td>
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<tr>
<td>M. M. 225, Statics</td>
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Second Semester

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<th>Course</th>
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<tbody>
<tr>
<td>Math. 349, Applied Analysis I</td>
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<tr>
<td>M. E. 298, Thermodynamics</td>
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<tr>
<td>Chem. 112, General and Inorganic</td>
<td>5</td>
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<tr>
<td>M. M. 373, Mechanical Dynamics</td>
<td>3</td>
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<tr>
<td>E. E. 382, Electrical Dynamics</td>
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JUNIOR YEAR

First Semester

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<th>Course</th>
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<tbody>
<tr>
<td>Phys. 311, Topics in Mod. Physics</td>
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<tr>
<td>M. M. 335, Strength of Materials</td>
<td>5</td>
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<tr>
<td>General Requirements</td>
<td>3</td>
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<tr>
<td>M. M. 398, Electromech. Dynamics</td>
<td>2</td>
</tr>
<tr>
<td>*Engr. 377, Flow and Field Sys. I (4) or</td>
<td>4</td>
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<tr>
<td>E. E. 392, Electronic Circuits</td>
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Second Semester

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<tr>
<td>M. M. 347, Sci. of Engr. Materials</td>
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<tr>
<td>*Engr. 378, Flow and Field Sys. II</td>
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<tr>
<td>*Engr. 313, Engr. Seminar I</td>
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<tr>
<td>M. E. 369, Energy Conversion</td>
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<td>General Requirements</td>
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<td>Department Course</td>
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*These courses will bear the designation of the major department of the student.
**DEPARTMENTAL REQUIREMENTS**

**AERONAUTICAL ENGINEERING**

**JUNIOR YEAR**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td><strong>A. E. 324, Aerodynamic Theory</strong></td>
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**Second Semester**

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<tr>
<td><strong>A. E. 414, Perform., Stability &amp; Control</strong></td>
<td>5</td>
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<tr>
<td>A. E. 425, Flight Structures</td>
<td>4</td>
</tr>
<tr>
<td>E. E. 392, Electronics</td>
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<tbody>
<tr>
<td>A. E. 426, Flight Struct. Lab</td>
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<tr>
<td><em>Engr. 413, Engr. Seminar II</em>*</td>
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<tr>
<td>A. E. 416, Supersonic Aerodynamics</td>
<td>2</td>
</tr>
<tr>
<td>A. E. 427, Airplane Design</td>
<td>2</td>
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<tr>
<td>*Engr. 393, Engineering Analysis</td>
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(Chosen from A. E. 417, 418, 429, 432, 478; E. E. 484, 494; M. M. 447; Math. 450.)

**ELECTRICAL ENGINEERING**

**JUNIOR YEAR**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>E. E. 480, Transient &amp; Frequency Analysis</td>
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**Second Semester**

<table>
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<th>Course</th>
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<tr>
<td><em>Engr. 378, Flow and Field Sys. II</em>*</td>
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<tr>
<td>E. E. 485, Elec. Design Project I</td>
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<tr>
<td>E. E. 486, Information Processing</td>
<td>4</td>
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<tr>
<td>E. E. 487, Electromech. Energy Converters I</td>
<td>4</td>
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<tbody>
<tr>
<td>*Engr. 413, Engr. Seminar II</td>
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<td>*Engr. 393, Engr. Analysis</td>
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<tr>
<td>E. E. 482, Energy &amp; Information Transmission</td>
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<tr>
<td>E. E. 496, Elec. Design Project II</td>
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<tr>
<td>E. E. 492, Physical Electronics</td>
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(Chosen from E. E. 483, 484, 490, 491, 494; A. E. 324; I. E. 354; M. E. 338; Math. 335, 450; Phys. 345.)

**INDUSTRIAL ENGINEERING**

**JUNIOR YEAR**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>I. E. 355, Engineering Economy</td>
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**Second Semester**

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>I. E. 352, Work Measurement</td>
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<tr>
<td>I. E. 354, Statistical Anal. &amp; Control I</td>
<td>3</td>
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<tr>
<td>I. E. 451, Industrial Operations Analysis</td>
<td>3</td>
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<tr>
<td>I. E. 458, Production Design</td>
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<td>General Requirements</td>
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<tr>
<td>*Engr. 378, Flow and Field Sys. II (4) or</td>
<td>4</td>
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<tr>
<td>E. E. 392, Electronic Circuits</td>
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**SECOND SEMESTER**

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<th>Course</th>
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<tr>
<td>*Engr. 393, Engr. Analysis</td>
<td>3</td>
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<tr>
<td>I. E. 452, Factory Planning</td>
<td>3</td>
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<tr>
<td>I. E. 454, Statistical Anal. &amp; Control II</td>
<td>2</td>
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<tr>
<td>I. E. 457, Safety Engineering</td>
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<td>General Requirements</td>
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<td><em>Engr. 413, Engr. Seminar II</em>*</td>
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**MECHANICAL ENGINEERING**

**SOPHOMORE YEAR**

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>M. E. 211, Intro. to Mech. Engr.</td>
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**JUNIOR YEAR**

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<tr>
<th>Course</th>
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<tr>
<td>M. E. 338, Thermodynamics II</td>
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**SECOND SEMESTER**

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<th>Hours</th>
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<tr>
<td>E. E. 392, Electronic Circuits</td>
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<tr>
<td>M. E. 435, Power Plant Design</td>
<td>3</td>
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<tr>
<td>M. E. 438, Machine Design I</td>
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<tr>
<td>M. E. 445, Transportation Vehicles</td>
<td>2</td>
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<tr>
<td>M. E. 471, Heating, Ventilating, and Air Conditioning</td>
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<td>General Requirements</td>
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<tr>
<td>Mechanical Engineering Electives**</td>
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<tr>
<td><em>Engr. 413, Engr. Seminar II</em>*</td>
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<td>*Engr. 393, Engr. Analysis</td>
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<tr>
<td>M. E. 449</td>
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(***Chosen from M. E. 437, 440, 443; I. E. 355; Math. 450.)

**OTHER ENGINEERING FIELDS**

Students desiring to specialize in other fields of engineering may complete two years at Wichita before transferring. It is suggested that the student planning to transfer at the end of two years make the selection of his school as soon as possible in order to permit his program to be planned to meet the requirements of that school.

**GRADUATE WORK**

The departments of Aeronautical Engineering, Electrical Engineering, and Mechanical Engineering supervise graduate programs leading to the degree of Master of Science as offered by the Graduate School. A notation on the diploma identifies the department of study. Various specializations are available in each of the departments.

Students must be accepted for graduate standing before any graduate work can be scheduled. Prospective students should obtain a Graduate Bulletin and the Engineering Graduate Regulations prior to application for graduate standing.

*These courses will bear the designation of the major department of the student.

**Instead of E. E. 392, Electronics in the common sequence of courses.
ENGINEERING CURRICULUM

Majors and Specialized Curricula. See page 99.

Upper Division Courses

The following courses will be listed as offerings of each department granting credit. Students will receive major department credit by enrolling in any section of these courses.

313 Seminar I. (0). 2L. Evaluation and rating of the preparation and presentation of technical papers and discussions. Prerequisite: junior standing.

377 Flow and Field Systems I. (4). 3R; 4L. Systems in which the quantities of interest vary in space, but not in time. Vector analysis; general principles of conservation laws, Potential flow; solution of simple boundary value problems; application to heat transfer, diffusion processes, electric and magnetic fields, and fluid flow. Prerequisite: M.E. 298, and Math. 349.

378 Flow and Field Systems II (4). 3R; 4L. A continuation of Engr. 377 to include the tensor analysis of deformable bodies and viscous fluids, the effect of time variations in heat transfer, electro-magnetic fields, deformable bodies and fluid flow. Introduction to wave motion in solids, fluids, and space. Prerequisite: Engr. 377.

393 Engineering Analysis. (3). 2R; 3L. The professional method of engineering analysis and design with the objective of developing in the student the ability to deal with new situations in a creative manner by means of fundamental principles; an integration of the engineering sciences and mathematics through use in problem-solving activities. Prerequisite: M.E. 298 or concurrent enrollment, Engr. 377.

413 Seminar II. (1). 2L. Problem solving by discussion groups, preparation and presentation of technical papers, registration, professional orbiting. Prerequisite: Engr. 313.

AERONAUTICAL ENGINEERING

Upper Division Courses


414 Performance, Stability and Control. (5). 3R; 4L. Power required, power available and drag estimation, longitudinal, lateral and directional static stability and control. Introduction to dynamic stability. Prerequisite: A.E. 324.

416 Supersonic Aerodynamics. (2). One-dimensional flow of a perfect gas; shock and expansion waves; applications to nozzles, wind tunnels, and airfoils in two-dimensional supersonic flow. Prerequisite: A.E. 324.

417 Senior Projects in Aeronautical Engineering. (1) or (2). May be repeated for a total of 2 hours.

418 Missile and Space Dynamics. (2). Trajectories of space vehicles in a central force field; rigid body motion, rocket performance. Department consent.


426 Flight Structures Laboratory. (1). 3L. Special projects in the design and analysis of flight vehicle structures. Prerequisite: A.E. 425.


429 Flight Structures II. (2). Energy methods in structural analysis with emphasis on the unit load method. Prerequisites: Math. 349, M.M. 333.


478 Structural Dynamics. (2). Static aeroelasticity and flutter. Prerequisites: M.M. 398 or M.M. 477.

Graduate Courses

Prerequisite for all graduate courses is department consent.

502 Jet Propulsion. (3). Analysis of jet propulsion devices, study of cycles, effect of operating variables, problems of installation, operation, and instrumentation.

504 Research in Aeronautical Engineering. (2). Individual experimental work by qualified graduate students. Problems to be selected in consultation with instructor.

505 System Optimization. (3). Application of the techniques of the calculus of variations to minimize various cost functions or maximize certain benefits. Use of Pontryagin's maximum principle and Bellman's technique of dynamic programming to control flight, mechanical, electrical and economic systems.


511 Aerodynamics of Non-Viscous Fluids. (3). Equations of motion; potential flow, conformal transformations, finite wing theory; non-steady airfoil theory.

512 Aerodynamics of Viscous Fluids. (3). Viscous fluid flow theory and boundary layers.

516 Aerodynamics of Compressible Fluids. (3). Development and application of equations for three-dimensional compressible flow of a perfect gas.


522 Advanced Flight Structures II. (3). The analysis of statically indeterminate structures by the matrix displacement method.

524 Theory of Thermal Stresses. (3). Thermal stress analysis of elastic systems.
Aeronautical Seminar. (1). A fortnightly two-hour meeting of staff members and graduate students to discuss current aeronautical problems.

Thesis. (4).

ELECTRICAL ENGINEERING

Upper Division Courses

382 Electronic Circuits. (4). 3R; 3L. Physical electronics, electron beams; semi-conductor, vacuum, and gaseous devices and their equivalent circuits; application to the field of information processing, power modulation, and simulation. Prerequisite: E.E. 382, Math. 349.

480 Transient and Frequency Analysis. (3). Review of classical transient analysis and Fourier Series; introduction to LaPlace and Fourier Transforms with emphasis on network response; complex frequency concepts; signal spectra. Prerequisite: E.E. 392, M.M. 398.

482 Energy and Information Transmission. (4). 3R; 3L. Transmission line parameters; power, signal and high frequency transmission lines; wave propagation in free space and bounded media; wave guides and antennas. Prerequisite: Engr. 378, E.E. 486 or concurrent enrollment.

483 Network Theory. (3). Matrix algebra, generalized theory and analysis of lumped parameter networks; introduction to network synthesis; symmetrical components. Prerequisite: E.E. 480.

484 Servomechanisms. (4). 3R; 3L. Analysis of closed-loop control systems; feedback theory, dynamic response, stability criteria, introduction to compensation methods. Prerequisite: E.E. 480.

485 Electrical Design Project I. (1). 3L. A design project under faculty supervision chosen according to the student's interest. Prerequisite: department consent.


491 UHF Generation and Amplification. (3). High frequency limitations of vacuum tubes; theory and characteristics of microwaves oscillators and amplifiers; Klystrons, Magnetrons, Traveling Wave Tubes, and Masers. Prerequisite: E.E. 482 or concurrent enrollment.

492 Physical Electronics (3). Theory of electron emission, optics, and beam deflection devices; storage tubes; surface and junction effects in metals and semiconductors; high frequency limitations to vacuum and semiconductor devices; microwave tubes. Prerequisite: Engr. 378, M.M. 347 and E.E. 392.

494 Automatic Computers. (4). 3R; 3L. Basic construction and principles of operation of analog and digital computing machines and use of these machines in the solution of engineering and scientific problems. Prerequisite: E.E. 392, M.M. 398.

495 Electrical Design Project II (1). 3L.

Graduate Courses

576 Thesis (4).

580 Advanced Engineering Analysis. (3). Integration of fundamental mathematical and physical principles; use of these principles in professional methods of analysis. Prerequisite: Math. 349. Intended for students who have not had 393.

582 Theory of System Response. (3). Response of linear physical systems with emphasis on electrical networks. LaPlace and Fourier Transforms, complex frequency concepts, frequency spectra, pole and zero viewpoint of network analysis and synthesis, complex plane loci, attenuation-phase diagrams. Introduction to advanced theory of feedback systems; servo-mechanisms, negative feedback amplifiers and oscillators; stability criteria. Prerequisite: M.M. 398 or equivalent.

583 Intermediate Electromagnetic Field Theory I. (3). Introduction to advanced mathematical treatment of electric and magnetic fields using vector notation; boundary value problems; time varying fields; development of Maxwell's Equations. Prerequisite: Math. 349.

584 Intermediate Electromagnetic Field Theory II. (3). Application of Maxwell's Equations; eddy currents, skin effect; electromagnetic waves; introduction to wave guides, cavity resonators, radiation, and antenna. Prerequisite: E.E. 583.

585 Electron Dynamics. (3). Electron ballistics in static and dynamic fields including space charge effects; electron optics, space charge spreading, aberration and thermal velocity limitations; space charge waves, theory of Klystrons, Magnetrons and Traveling Wave Tubes. Prerequisite: E.E. 584 or concurrent enrollment.

586 Solid-State Electronics. (3). Principles of operation of solid-state electronic devices with emphasis on the underlying physical phenomena. Special treatment will be given to electron emission, semiconductor, dielectric and magnetic devices. Some consideration of circuit application of these devices. Prerequisite: E.E. 583, Physics 516.

587 Communication Theory. (3). Theory of information and noise; communication of information in presence of noise, channel capacity; modulation and multiplexing, sampling and coding; detection theory including effects of noise and non-linear circuits, correlation methods. Prerequisite: E.E. 582.

588 Selected Topics in Antennas and Propagation. (3). Determination of characteristics of practical antenna systems; radiation patterns and antenna impedance; diffraction, horns, slots, etc.; wave propagation in the
earth's environment, including tropospheric and ionospheric phenomena. Prerequisite: E.E. 584.

589 Advanced Electrical Laboratory. (2). (6L). Training in fundamental experimental technology in some field of electrical specialization. This course will consist of selected experiments in various areas of electrical engineering. The general subject area will be announced each semester the course is offered. May be taken more than once for credit. Prerequisite: department consent.


591 Instrumentation and Control of Nuclear Reactors (3R). Reactor kinetics; time constants, fission products and poisoning and temperature effects. Control rod effectiveness; neutron flux depression. Reactor instrumentation and control elements. Reactor control systems; internal and external loops. Analysis of transient and steady-state response. Control during startup; steady-state operation and shut-down. Prerequisite: Department consent.

595 Direct Energy Conversion (3R). A theoretical treatment of basic methods of energy conversion, i.e., thermoelectric and thermionic devices, magneto-hydrodynamic generators, solar and fuel cells, etc., based on modern physics and thermodynamics. Prerequisite: Department consent.

ENGINEERING GRAPHICS

Lower Division Courses

109 Graphics I. (1). 1R; 2L. An introduction to Engineering Graphics: the basic principles of orthographic drawing including lines, planes, and solids; and the fundamentals of dimensioning. Prerequisite: Math. 141 or concurrent enrollment.

110 Graphics II. (2). 2R; 4L. A study of the representation of all solid forms on the drawing and the graphical methods for determining their true size, true slopes, and true relationships to each other. Prerequisite: E.G. 109.

115 Architectural Drawing. (3). 9L. The study of materials and construction details pertaining to the design of simple buildings including the preparation of working drawings and specifications. Prerequisite: E.G. 109 or E.G. 117.

213 Graphics III. (2). 2R; 4L. Conventional practices and standards used in the graphical presentation of engineering materials, ideas, and information; vectors, graphical computation, graphical calculus, and the geometry of machine elements. Prerequisite: E.G. 110, Physics 243, or concurrent enrollment in Physics 243.

256 Advanced Tool Drafting. (2). 6L. The study of the materials and conventional practices used in the graphical presentation of information pertaining to the design and fabrication of jigs, fixtures, and dies, including the solution of simple design problems. Prerequisite: E.G. 213.

260 Production Illustration. (2). 6L. The study of the graphical methods of presenting engineering information in the form of rendered pictorial (three-dimensional) drawings. Prerequisite: E.G. 109 or E.G. 117.

INDUSTRIAL ENGINEERING

Upper Division Courses

352 Work Measurement. (3). 2R; 3L. Work measurement, motion and time study, biomechanics, work sampling, predetermined time standards and time formula derivation. Prerequisite: Department Consent.

354 Statistical Analysis and Control I. (3). Basic theory of probability and statistics with emphasis on applications to engineering process control and statistical quality control. Prerequisite: Department Consent.


451 Industrial Operational Analysis. (3). The uses of schematic methods, linear programming, statistical control, sampling inspection, industrial experimentation, Monte Carlo analysis, use of random numbers. Prerequisite: I.E. 354, 355 if applied toward major. Department consent for others.

452 Factory Planning. (3). 2R; 3L. Determination of methods and capacities to meet production requirements economically. Principals and techniques of plant layout, Methods of production planning, scheduling and dispatching. Prerequisite: I.E. 352, 355, 458.


Graduate Courses

540 Advanced Engineering Economy (3). Time value of money; economics of equipment selection and replacement; engineering estimates; evaluation of proposals, computer analysis and solutions of economic problems.

542 Electronic Data Processing. (3). Study of the data systems aspect of digital computing; programming and operation of the IBM 1620.

543 Operations Research. (3). Model building techniques for industrial problems; linear and dynamic programming; queuing theory; allocation processes; inventory theory; replacement theory; experimental designs; utilization of digital computers.

545 Production Engineering. (2). The organization, design, and control of production and associated staff functions; formulation and manufacturing policies; case studies in production design.


576 Thesis (4).
MECHANICAL ENGINEERING

Lower Division Courses


259 Thermodynamics I. (3). The First and Second Laws. Thermodynamic analysis as applied to thermal, mechanical and chemical systems. Prerequisite: Math. 244 and Physics 248.

Upper Division Courses

335 Fluids. (3). 2R; 3L. Introduction to fluid mechanics, fluid properties, and statics. The continuity equation, equations of motion, Bernoulli equation, momentum theorem, etc. Elements of potential flow. Principles of similarity and the flow of real fluids. Dynamic forces. Prerequisite: M.E. 223.


338 Thermodynamics II. (3). Properties of non-reactive and reactive systems, vapor cycles, reversed cycles, Maxwell Equations, Evaluation of irreversibility. Prerequisite: M.E. 298.

339 Instrumentation. (3). 3R. Introduction to the art of instrumentation and process control. The application of the fundamental principles of mechanics, electronics, fluid dynamics and physical and chemical principles to instrumentation and control problems. Prerequisite: M.E. 325, M.M. 373, (M.E. 336, E.E. 392 or concurrently).

369 Energy Conversion. (3). Energy conversion principles and their implementation in engineering devices; consideration of all main areas of converting energy from one form to another. Prerequisite: M.M. 373, Engr. 377, E.E. 382.


437 Turbomachinery. (3). Energy relations between a rotor and a fluid stream. Prerequisite: Engr. 378.


440 Machine Design II. (3). 1R; 6L. Creative emphasis in designing machines including dynamic effects. Prerequisite: M.E. 438.

443 Small Power Plants. (2). Theory and performance of small or portable power and thrust engines. Prerequisites: M.E. 338, M.E. 378.

445 Transportation Vehicles. (2). Determination of power required, selection of power plants and determination of the performance of vehicles for transporting material, equipment and people. Prerequisites: M.E. 378, 369.

446 Metals in Design. (3). Ferrous and non-ferrous alloys; binary phase systems; principles of heat treatment of steel, aluminum, and magnesium alloys; selection and fabrication of alloys. Prerequisite: Chem. 112, Physics 244.

447 Mechanical Engineering Laboratory Projects. (1), (2) or (3). Individual and group laboratory experiments conducted on any phase of Mechanical Engineering. Prerequisites: M.E. 369, E.E. 392.

449 The Human Factor in Engineering Design. (2). The synthesis of human physiological, psychological, sociological and legal limitations and influence on design of consumer, public and experimental products. Prerequisites: Department consent.

471 Heating, Ventilating, and Air Conditioning. (3). 2R; 3L. Theory and practice of air conditioning and refrigeration. Prerequisite: M.E. 338.

Graduate Courses

549 Advanced Machine Design. (3). Specialized studies of current machine design problems which involve high speed, high temperature, vibration and dynamic loading. Prerequisite: department consent.

550 Graduate Seminar. (1-3). Assigned projects involving specialized study. Prerequisite: department consent.


552 Heat Transfer-Convection. (2). Free and forced convection in laminar and turbulent flow. Design of convection heat transfer equipment. Prerequisite: department consent.

553 Heat Transfer-Radiation. (2). Prerequisite: department consent.

554 Turbomachinery. (3). Application of the principles of fluid dynamics and thermodynamics to radial, axial and mixed flow compressors and turbines. Prerequisite: department consent.

555-556 Advanced Thermodynamics. (3-3). Prerequisite: 6 hrs. of undergraduate thermodynamics.

557 Fluid Dynamics. (2). Steady and transient flow of ideal, real and heterogeneous liquids and gases in simple and complex passages. Prerequisite: department consent.

559 Mechanical Control. (3). Application of feedback methods to the mechanical control of machines. Prerequisite: Math. 450.

560 Lubrication. (3). The chemistry and properties of lubrication, rheology, film and boundary lubrication, additives, surface phenomena and applications. Prerequisite: department consent.

561 Similitude in Engineering. (2). Critical analysis of models and analogies as aids to engineering design. Prerequisite: department consent.

562 Power Plant Economics. (2). Critical survey of the fundamental economic principles employed in the selection and operation of power plants. Prerequisite: department consent.

563 Transport Phenomena. (2). Combination of heat transfer, diffusion, and fluid dynamic theories in the determination of transport of mass, momentum and energy.

104 SCHOOL OF ENGINEERING
MECHANICS AND MATERIALS

Lower Division Courses

223 Statics. (3). Composition and resolution of vector quantities, conditions of equilibrium, friction, and the statics of lumped and distributed systems including fluid systems. Prerequisites: Math. 243, Physics 244 or concurrent enrollment, E.G. 219 or concurrent enrollment.

127 Digital Computer Programming. (1). 2L. Programming and operation of IBM 1620 data processing system. Prerequisite: Math. 141 or equivalent.

Upper Division Courses


333 Strength of Materials. (5). 4R; 3L. Theories of stress and strain. Analysis of structural elements. Prerequisite: M.E. 223 with a grade of C or better, Math. 244.


373 Mechanical Dynamics. (3). The laws of motion and the dynamics of particles and systems of particles. Prerequisites: M.M. 223 with a grade of C or better, and Math. 244.


433 Advanced Strength of Materials. (3). Limitations and usefulness of basic concepts of resistance of materials. Advanced concepts, including theories of failure and stresses and deformation in thin plates, cylinders, non-symmetrical and curved flexural members, non-circular bars in torsion, etc. Stress concentration. Energy methods. Prerequisite: M.M. 333.


576 Thesis. (4).

Graduate Courses

520 Theory of Elastic Stability. (3). Buckling and bending of columns, beams, plates, and shells. Prerequisite: Math. 349.

530 Introduction to Elasticity. (3). Elements of the common theory of elasticity with emphasis on two-dimensional problems in stress and strain. Prerequisite: Math. 349.

535 Experimental Stress Analysis. (3). The theoretical bases and techniques of the common methods of experimentally determining stress and strain in structural and machine parts. Selected laboratory demonstrations. Prerequisite: Math. 349.

537 Advanced Engineering Dynamics (3). An extension of the principles of kinetics and kinematics. Prerequisite: M.M. 398.

539 Variational Principles of Mechanics. (3). An approach to the dynamics of discrete particles or bodies using basic variational principles and variational calculus.

543 Corrosion and Chemical Process in Materials (3). Classical thermodynamics applied to liquid and solid state reactions in single and multi-component systems, cells, solid state devices, etc. Prerequisite: M.M. 347 or equivalent.

INTERIOR OF FINE ARTS CENTER

SCHOOL OF ENGINEERING
THE SUMMER SCHOOL

HUGO WALL, Ph.D., Director

Summer School

All the colleges and divisions of the University function during the summer session. Credit toward all undergraduate degrees offered by the University may be earned during the summer. Graduate work leading to the Masters degree is available through certain departments.

Summer Session Bulletin

The bulletin of the summer session contains a list of dates, all courses offered, names of instructors, and hours of credit. This bulletin will be mailed to those requesting it.

The University extends a cordial invitation to all interested persons to avail themselves of the opportunities which the summer session offers.

For bulletin and information write to the Director of the Summer Session, Wichita State University, Wichita 8, Kansas.

General Information

The University maintains its summer session as an extension of its regular scholastic year. All work is offered by thoroughly competent instructors, and the standards of achievement are identical with those of the regular academic year.

Standards

Credits earned in the summer session are accepted by all colleges accredited by or belonging to the associations which accredit the University or in which it has membership.

Admission Requirements

The Rules governing admission to the summer session are the same as those of the regular session.

Credit Hours

The student may carry as many credit hours as the number of weeks for which he is enrolled.

Fees

For information regarding fees see pages 15 and 16.
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