871.   Advanced Studies in Sociolinguistics
Spring. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course.
P: LIN 401.
Linguistic and societal bases for language choice. Topics exemplifying modern sociolinguistics including concerns of power, politeness, gender, quantitative microsociolinguistics, and ethnomethodology.
QP: LIN 415 QA: LIN 815

890.   Independent Study
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course.
R: Approval of department.
Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.
QA: LIN 860

891.   Special Topics
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course.
R: Approval of department.
Special topics supplementing regular course offerings proposed by faculty on a group study basis for graduate students.

892.   Seminar in Linguistics
Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course.
R: Open only to graduate students in Linguistics. Approval of department.
Directed original research on current topic in linguistics.
QA: LIN 880

898.   Master's Research
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course.
R: Approval of department.
Directed research in support of Plan B master's degree requirements.

899.   Master's Thesis Research
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course.
R: Approval of department.
Directed research leading to a master's thesis, used in partial fulfillment of Plan A master's degree requirements.
QA: LIN 899

999.   Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 36 credits in all enrollments for this course.
R: Approval of department.
QA: LIN 999

LINGUISTICS AND
LANGUAGES   LL

Department of Linguistics and Germanic, Slavic, Asian and African Languages
College of Arts and Letters

290.   Independent Study
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course.
R: Approval of department.
Special projects in Linguistics and Languages arranged by an individual student and a faculty member in areas supplementing regular course offerings.
QA: LOA 299

380.   Methods of Teaching Foreign Languages
Spring of even-numbered years. 3(3-0)
P: GRM 202 or RUS 202 or CHS 202 or JPN 202 or approval of department.
Methods of teaching Germanic, Slavic, Asian, and African languages for teacher education candidates. Theories of second language acquisition and practical application of teaching strategies.
QP: GRM 203 QA: T E 340

490.   Independent Study
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course.
R: Approval of department.
Special projects in linguistics and languages arranged by an individual student and a faculty member in areas supplementing regular course offerings.
QA: LOA 499

491.   Special Topics in Linguistic and Languages
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
R: Approval of department.
Special topics supplementing regular course offerings proposed by faculty on a group study basis.

LYMAN BRIGGS SCHOOL LBS

Lyman Briggs School
College of Natural Science

117.   College Algebra and Trigonometry
Fall. 3(3-0)
R: Open only to Lyman Briggs School majors. Designated score on mathematics placement test. Not open to students with credit in MTH 103 or MTH 110 or MTH 116 or MTH 120.
Rational and real numbers. Functions and inverses. Equations, simultaneous equations. Inequalities. Graphing. Trigonometry.
QA: LBS 111, MTH 111, MTH 108, MTH 109

118.   Calculus I
Fall, Spring. 5(5-0)
P: LBS 117 or MTH 110 or MTH 116 or designated score on mathematics place R: Open only to Lyman Briggs School majors. Not open to students with credit in MTH 120 or MTH 124 or MTH 132 or MTH 152H.
Limits, continuity, differentiation, integration, and elementary applications.
QP: LBS 111, MTH 109, MTH 111 QA: LBS 112, MTH 112, LBS 113, MTH 113

119.   Calculus II
Fall, Spring. 4(4-0)
P: LBS 118. R: Open only to Lyman Briggs School majors. Not open to students with credit in MTH 133 or MTH 153H or MTH 235.
Continuation of LBS 118. Further applications of one variable calculus. Infinite series. Ordinary differential equations.
QP: LBS 113, MTH 113 QA: LBS 113, MTH 113, LBS 217, MTH 215

125.   Introduction to C Language with Applications
Spring. 3(3-0)
P: LBS 118. R: Open only to Lyman Briggs School majors. Not open to students with credit in CPS 130 or CPS 131 or CPS 230.
Computer programming using the C language and the UNIX operating system. Emphasis on scientific and mathematical applications.
QP: MTH 112 or LBS 112

126.   Personal Computers and Networks
Fall, Spring. 3(3-0)
R: Open only to Lyman Briggs School majors. Not open to students with credit in CPS 100.
Selecting, installing and using personal computer software and hardware. Computer networks.

127.   Introduction to FORTRAN Language with Applications
Fall. 3(3-0)
P: LBS 118 or concurrently. R: Open only to Lyman Briggs School majors. Not open to students with credit in CPS 131.
Computer programming using the FORTRAN language and the UNIX operating system with emphasis on scientific and mathematical applications.

133.   Introduction to Science and Technology Studies
Fall, Spring. 4(4-0)
P: Designated score on English placement test. R: Open only to Lyman Briggs School majors. Not open to students with credit in MC 111, MC 112, ATL 110, ATL 120, ATL 125, ATL 130, ATL 140, ATL 145, ATL 150, ATL 195H.
Instruction and practice in expository writing. Paper and report topics drawn from readings in the history, philosophy, and other areas of science and technology.
QA: LBS 131, LBS 232

144.   Biology I: Organismal Biology
Fall, Spring. 4(3-3)
R: Open only to Lyman Briggs School majors. Not open to students with credit in BS 110.
Modern biology at the organismal level of integration. Principles of genetics, evolution, ecology, and organismal diversity as interactive units.
QA: LBS 140, BS 212

145.   Biology II: Cellular and Molecular Biology
Fall, Spring. 4(3-3)
P: LBS 144; CEM 141 or CEM 151 or CEM 181H or LBS 165 or concurrently. R: Open only to Lyman Briggs School majors. Not open to students with credit in BS 111.
Modern biology mainly at the cellular level of integration. Principles of cell structure and function are used to explain processes of bioenergetics, protein synthesis, and development.
QP: LBS 140 QA: LBS 141, LBS 242, BS 210, BS 211

164.   Introduction to Physics and Chemistry I
Fall. 3(4-0)
P: LBS 117 or concurrently or MTH 116. R: Open only to Lyman Briggs School majors. Not open to students with credit in PHY 181B or PHY 183 or PHY 183B or PHY 231 or PHY 231B or PHY 193H.
Basic physics principles, problem solution techniques. Mechanical systems, elementary thermodynamics, vibrations and waves. Atoms and nuclei.
QP: MTH 109, MTH 111, LBS 111 QA: LBS 162, LBS 261, PHY 237, PHY 281

164L.   Introductory Physics Laboratory I
Fall. 1(0-3)
P: LBS 164 or concurrently. R: Open only to Lyman Briggs School majors. Not open to students with credit in PHY 192 or PHY 251.
Techniques and instruments in the physics laboratory. Selected experiments in classical and modern physics.
QA: LBS 162L, LBS 261L, PHY 257, PHY 259, PHY 297, PHY 299

165.   Introduction to Chemistry and Physics I
Spring. 4(4-0)
P: LBS 164. R: Open only to Lyman Briggs School majors. Not open to students with credit in CEM 141 or CEM 152 or CEM 182H.
Chemical principles: structure and bonding, periodic properties. Stoichiometry, states of matter. Solutions, acids and bases, equilibria. Thermodynamics, kinetics.
QA: LBS 161, LBS 163, CEM 141, CEM 151, CEM 152

165L.   Introductory Chemistry Laboratory I
Spring. 1(0-3)
P: LBS 165 or concurrently. R: Open only to Lyman Briggs School majors. Not open to students with credit in CEM 161 or CEM 185H.
Determination of density and molecular weight. Stoichiometry. Acid-base titration, redox titration. Reaction kinetics, thermochemistry, Beer's law, freezing point depression, and equilibrium constants.
QA: LBS 161L, LBS 163L, CEM 161

220.   Calculus III
Fall, Spring. 5(5-0)
P: LBS 119. R: Open only to Lyman Briggs School majors. Not open to students with credit in MTH 234 or MTH 235 or MTH 254H or MTH 255H.
Continuation of LBS 119. Three-dimensional vector geometry, differential calculus of functions of two or three variables. Double and triple integrals, line integrals.
QP: LBS 113, MTH 113 QA: LBS 216, LBS 217, MTH 214, MTH 215