LYMAN BRIGGS SCHOOL

Lyman Briggs School
College of Natural Science

117 College Algebra and Trigonometry
Fall. 3(3-0) P:M: Designated score on Mathematics placement test. R: Open only to students in Lyman Briggs School. Not open to students with credit in MTH 103 or MTH 116.

118 Calculus I
Fall, Spring. 5(5-0) P:M: (LBS 117 or MTH 116 or MTH 114) or designated score on Mathematics placement test. R: Open only to students in Lyman Briggs School. Not open to students with credit in MTH 132 or MTH 133 or MTH 152H.

119 Calculus II
Fall. 4(4-0) P:M: LBS 118 R: Open only to students in Lyman Briggs School. Not open to students with credit in MTH 133 or MTH 153H or MTH 235.

126 Personal Computers and Networks
Fall, Spring. 3(3-0) R: Open only to students in Lyman Briggs School. Not open to students with credit in CSE 101.

133 Introduction to Science and Technology Studies
Fall. Spring. 4(4-0) P:M: Designated score on English placement test. R: Open only to students in Lyman Briggs School. Not open to students with credit in AL 192 or AL 192H or ATL 110 or ATL 120 or ATL 125 or ATL 135 or ATL 140 or ATL 145 or ATL 150 or ATL 195H or MC 111 or MC 112 or ATL 115.

144 Biology I: Organismal Biology
Fall, Spring. 4(3-3) R: Open only to students in Lyman Briggs School. Not open to students with credit in BS 110.

145 Biology II: Cellular and Molecular Biology
Fall, Spring. 5(3-4) P:M: (LBS 144 or BS 110 or LBS 148H and (CEM 141 or (CEM 151 or concurrently) or (CEM 181H or concurrently) or (LBS 171 or concurrently)) R: Open only to students in Lyman Briggs School. Not open to students with credit in BS 111.

148H Honors Organismal Biology
Fall. 3(3-0) Interdepartmental with Biological Science. Administered by Biological Science. Not open to students with credit in BS 110 or LBS 144.

149H Honors Cell and Molecular Biology
Spring. 3(3-0) Interdepartmental with Biological Science. Administered by Biological Science. Not open to students with credit in BS 110 or LBS 145.

158H Honors Organismal Biology Laboratory
Fall. 2(1-3) Interdepartmental with Biological Science. Administered by Biological Science. Not open to students with credit in BS 111L or LBS 145, C: BS 148H concurrently.

159H Honors Cell and Molecular Biology Laboratory
Spring. 2(1-3) Interdepartmental with Biological Science. Administered by Biological Science. Not open to students with credit in BS 111L or LBS 145, C: BS 148H concurrently.

171 Principles of Chemistry I - Structure
Fall. 4(4-0) P:M: (LBS 117 or concurrently or MTH 116 or concurrently or MTH 132 or concurrently or MTH 152H or concurrently or LBS 118 or concurrently or LBS 119 or concurrently) R: Open only to students in Lyman Briggs School. Not open to students with credit in CEM 141 or CEM 151 or CEM 181H. C: LBS 171L concurrently.

171L Introductory Chemistry Laboratory I
Fall. 1(0-3) R: Open only to students in Lyman Briggs School. SA: LBS 165L Not open to students with credit in CEM 161 or CEM 185H. C: LBS 171 concurrently. Determination of density and molecular weight. Stoichiometry. Acid-base titration, redox titration. Reaction kinetics, thermochemistry, Beer’s law, freezing point depression, and equilibrium constants.

172 Principles of Chemistry II - Reactivity
Spring. 3(4-0) P:M: (LBS 171 or CEM 141 or CEM 151 or CEM 181H) and (LBS 171L or CEM 161 or CEM 185H) R: Only open to students in Lyman Briggs School. SA: LBS 266 Not open to students with credit in CEM 142 or CEM 152 or CEM 182H.

172L Principles of Chemistry II - Reactivity Laboratory
Spring, 1(0-3) P:M: (LBS 171 or CEM 141 or CEM 152 or CEM 182H) and (LBS 171L or CEM 161 or CEM 185H) and (LBS 172 or concurrently) R: Open only to students in Lyman Briggs School. SA: LBS 266L Not open to students with credit in CEM 162 or CEM 186H.

176 Principles of Chemistry Laboratory
Fall. 1(0-3) R: Open only to students in Lyman Briggs School. SA: LBS 165L Not open to students with credit in CEM 161 or CEM 185H. C: LBS 171 concurrently. Determination of density and molecular weight. Stoichiometry. Acid-base titration, redox titration. Reaction kinetics, thermochemistry, Beer’s law, freezing point depression, and equilibrium constants.

177 Principles of Chemistry Laboratory I
Fall. 1(0-3) R: Open only to students in Lyman Briggs School. SA: LBS 165L Not open to students with credit in CEM 161 or CEM 185H. C: LBS 171 concurrently. Determination of density and molecular weight. Stoichiometry. Acid-base titration, redox titration. Reaction kinetics, thermochemistry, Beer’s law, freezing point depression, and equilibrium constants.

177L Principles of Chemistry Laboratory II
Spring. 1(0-3) R: Open only to students in Lyman Briggs School. SA: LBS 266L Not open to students with credit in CEM 162 or CEM 186H. C: LBS 171L concurrently. Determination of density and molecular weight. Stoichiometry. Acid-base titration, redox titration. Reaction kinetics, thermochemistry, Beer’s law, freezing point depression, and equilibrium constants.

181H Principles of Chemistry I - Structure Laboratory
Fall. Spring. 3(3-0) R: Open only to students in Lyman Briggs School. SA: LBS 165L Not open to students with credit in CEM 161 or CEM 185H. C: LBS 171 concurrently. Determination of density and molecular weight. Stoichiometry. Acid-base titration, redox titration. Reaction kinetics, thermochemistry, Beer’s law, freezing point depression, and equilibrium constants.

182H Principles of Chemistry II - Reactivity Laboratory
Fall. Spring. 3(3-0) R: Open only to students in Lyman Briggs School. SA: LBS 266L Not open to students with credit in CEM 162 or CEM 186H. C: LBS 171L concurrently. Determination of density and molecular weight. Stoichiometry. Acid-base titration, redox titration. Reaction kinetics, thermochemistry, Beer’s law, freezing point depression, and equilibrium constants.

191 Principles of Chemistry Laboratory
Fall. Spring. 1(0-3) R: Open only to students in Lyman Briggs School. SA: LBS 165L Not open to students with credit in CEM 161 or CEM 185H. C: LBS 171 concurrently. Determination of density and molecular weight. Stoichiometry. Acid-base titration, redox titration. Reaction kinetics, thermochemistry, Beer’s law, freezing point depression, and equilibrium constants.
271L  Physics Laboratory I
Fall. 1(0-3) P:M: LBS 271 or concurrently R: Open only to students in Lyman Briggs School. SA: LBS 164L Not open to students with credit in PHY 191 or PHY 251.
Techniques and instruments in the physics laboratory. Selected experiments in classical and modern physics.

272L  Physics Laboratory II
Spring. 3(0-4) P:M: LBS 118 or MTH 133 or MTH 153H and LBS 271 R: Open only to students in Lyman Briggs School. SA: LBS 267L Not open to students with credit in PHY 182B or PHY 184 or PHY 184B or PHY 232 or PHY 232B or PHY 294H or PHY 232C.
Principles of electromagnetic theory, special relativity, quantum physics, optics, atomic and subatomic physics.

290C  Directed Study --Chemistry/Physics
Directed study in science and technology.

290E  Directed Study--Science and Technology
Directed study in science and technology.

290F  Directed Study--Computing
Directed study in computing.
490A Advanced Directed Study—Multidisciplinary  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open to juniors or seniors in the Lyman Briggs School. Directed advanced studies involving at least two Lyman Briggs School curricular areas: biology, chemistry, physics, mathematics, history, philosophy, sociology of science, and computing.

490B Advanced Directed Study—Biology  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to juniors or seniors in Lyman Briggs School. Directed advanced studies in biology.

490C Advanced Directed Study—Chemistry or Physics  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to juniors or seniors in Lyman Briggs School. Directed advanced studies in chemistry or physics.

490D Advanced Directed Study—Mathematics  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Not open to freshmen or sophomores. Open only to Lyman Briggs School majors. Directed advanced studies in mathematics.

490E Advanced Directed Study—Science and Technology Studies  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to juniors or seniors in Lyman Briggs School. Directed advanced studies in science and technology studies.

492 Senior Seminar  
Fall, Spring. 4(4-0) RB: (LBS 239 or LBS 330 or LBS 331 or LBS 332 or LBS 333 or LBS 334 or LBS 335 or LBS 355 or LBS 490E or HST 425) or completion of Tier I Writing requirement R: Open only to juniors or seniors in Lyman Briggs School. Selected problems in the study of science and technology as human activities, using philosophical, historical, literary, social science or interdisciplinary perspectives or methods. Development and defense of thesis paper.

493 Field Experience  
Fall, Spring. 1 to 10 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to juniors or seniors in Lyman Briggs School. Experiential learning related to the public or private practice of science and technology.