

Name: \_\_\_\_\_

Banner - ID: \_\_\_\_\_

**AREA I COMMUNICATIONS (9-10 credits):**

**English Composition - Level 1 (4 credits):**

ENGL 111G, ENGL 111H, or SPCD111G

**English Composition – Level 2 (3 credits):**

ENGL 318G

**Oral Communication (3 credits):**

AXED 201G, COMM 256G,  
COMM 265G, or HON 265G

**AREA II: MATHEMATICS/ALGEBRA(3 credits):**

MATH 191

**AREA III: LABORATORY SCIENCE (8 credits):**

CHEM 111G/111L and  
CHEM 112G/112L

**AREA IV: SOCIAL/BEHAVIORAL SCIENCES(6-9 credits)**

**AREA V: HUMANITIES AND FINE ARTS (6-9 credits)**

Total of 15 credits combined between Areas IV and V, with 6 credits in one area and 9 credits in the other area. See catalog for listing of available courses.

**Basic Science Background Requirements (40 credits):**

BIOL 111G, Natural History of Life.....3  
CHEM 111/112G, General Chemistry I, II.....8  
CHEM 313/314, Organic Chemistry I, II.....6  
CHEM 315, Organic Chemistry Laboratory.....2  
BCHE 395, Biochemistry.....3  
BCHE 396, Biochemistry and Biotechnology.....3  
MATH 191/192, Calculus and Analytic Geometry I, II.....6  
EST 311, Statistical Applications.....3  
PHYS 211/212 General Physics I, II or PHYS 221/222 General Physics for Life Sciences I, II.....6

**Core Requirements (42-44 credits from Tier I,II, and II courses)**

**Tier I courses (all are required):**

GENE 110, Experimental Systems in Genetics.....1  
BIOL 211 and 211L, Cell and Organismal Biology and Laboratory.....4  
GENE 305L, Genetic Techniques Laboratory.....1  
BIOL 311/311L, General Microbiology and Laboratory.....5  
GENE 315, Molecular Genetics.....3  
GENE 320, Heredity and Population Genetics.....3  
BIOL 377, Cell Biology.....3  
GENE 440, Genetics Seminar.....1  
GENE 452, Applied Bioinformatics or MOLB 470, Bioinformatics & Genome Analysis.....3  
BCHE 494, Techniques in Genetic Engineering.....4

**Tier II courses (choose one course from each of the following four areas):**

Selection response:

AGRO 462, Plant Breeding.....3  
ANSC 423, Animal Breeding.....3  
BIOL 467, Evolution.....3

Physiology

ANSC 421, Physiology of Reproduction.....3  
BIOL 354, Human Physiology.....3  
BIOL 381, Animal Physiology.....3  
BIOL 385, Introduction to Cancer.....3  
BIOL 451, Physiology of Microorganisms.....3  
BIOL 474, Immunology.....3  
EPWS 314, Plant Physiology.....3  
HORT 471, Plant Mineral Nutrition.....3

Organism structure:

ANSC 370, Anatomy and Physiology of Farm Animals....4  
BIOL 313, Structure and Function of Plants.....3  
BIOL 322, Zoology.....3  
BIOL 330, Comparative Anatomy and Embryology.....4  
BIOL 470, Developmental Biology.....3  
BIOL 465, Invertebrate Zoology.....4  
EPWS 303, Economic Entomology.....4

Molecular Genetics:

BIOL 475, Virology.....3  
BIOL 478, Molecular Biology of Microorganism.....3  
BIOL 482, Microbial Systematics.....2  
GENE 486, Genes and Genomes.....3  
GENE 488, Gene Regulation.....3

**Tier III course (Choose one science and ethics course from the following):**

AGRO 303G, Genetics and Society.....3  
HON 305G, Science, Ethics, and Society.....3  
PHIL 321, Biomedical Ethics.....3

Additional courses

Electives to bring total to 128 credits including 54 upper division credits.

**Recommended Electives**

**Honors College:**

**Nine credits from:**

HON 205G, Life, energy, and Evolution; HON 214, Successful Fellowship Writing; HON 225G, History of Ethics; HON 245G, Chemistry: Experiments, Laws, and Theories.

**Six credits from:**

HON 306G, Science, Ethics & Society; HON 314, Successful Fellowship Writing; HON 322G, Science and Public Policy; HON 410, Honors Internship; HON 420, Independent Studies; HON 421, Special Topics.

**Three credits:**

HON 400, Honors Thesis.

**Bioinformatics:**

Students may pursue a minor in Bioinformatics after consulting with an advisor in the Computer Science Department. There are 19 credits of coursework required for this minor which involves: CS 171, CS 272, CS 370 or 371, and CS 406.

