BIOLOGY

BIOL 1091  General Biology I
This course is the first semester of a two-semester course sequence in general biology. Topics include: the scientific method, characteristics of life, biological chemistry, cell and membrane structure and function, enzymes, metabolism, mitosis, meiosis, genetics, the structure of DNA, and protein synthesis. This course includes laboratory exercises and experimentation that illustrate core principles covered in the course. **Prerequisite: CHEM 1121 or 1201. MnTC (Goals 3/NS and 2/CT); (4 Cr - 3 lect, 1 lab)**

CHEMISTRY

CHEM 1202  General Chemistry II
This is the second course of a two-semester sequence in general inorganic chemistry. Content includes properties of solutions, kinetics, equilibrium, acids and bases, thermodynamics and electrochemistry. This course is for students intending to transfer or pursue Bachelor's preparation and/or careers in chemistry and the other physical sciences, engineering and health sciences (medicine, pharmacy, veterinary medicine, four-year nursing). **Prerequisite: MATH 1110 and CHEM 1201. MnTC (Goals 3/NS and 2/CT); (5 Cr - 3 lect, 2 lab)**

ENGLISH

ENGL 1101  Composition I
This is an introductory college writing course designed to help students develop effective writing skills for college level work. Students learn to generate ideas and organize them into unified, coherent essays. Methods of instruction vary, but most sections combine individual conferences and peer review with regular class meetings. **Prerequisites: A grade of C or higher in ENGL 0960 or appropriate placement score. MnTC (Goals 1/CM and Goal 2/CT); (3 Cr - 3 lect, 0 lab)**

ENGL 1104  Composition II: Argument
This second semester composition course is designed as a continuation of ENGL 1101. It teaches the skills needed to write clear and coherent essays using different modes of expository prose such as process, comparison and contrast, classification, and definition. It will culminate in the study of argumentative writing in which the student learns to defend a position and argue a thesis with reason and evidence. **Prerequisite: ENGL 1101 MnTC (Goal 1/CM and Goal 2/CT); (3 Cr - 3 lect, 0 lab)**

ENGL 1105  Composition II: Research
This is a second semester composition course focused on the writing of an academic research paper. Students learn how to employ the resources of an academic library and how to cite those sources in a fully documented analytical/interpretive term paper. **Prerequisites: ENGL 1101. MnTC (Goals 1/CM and 2/CT); (3 Cr - 3 lect, 0 lab)**

MATH

MATH 1050  Mathematics for Liberal Arts
This course is an exploration of a variety of areas of mathematics designed for students who are majoring in various areas of the liberal arts or in elementary education. Introductory material in sets, logic, probability, statistics, and consumer mathematics will be applied using a problem solving approach. **Prerequisite: Two years of high school algebra or MATH 0660 or a score of 70 or more on the elementary algebra portion of the placement test, and a score of 63 on the reading comprehension portion of the placement test. MnTC (Goals 4/MA and 2/CT); (3 Cr - 3 lect, 0 lab)**

MATH 1110  College Algebra
This course covers the basics of college level algebra emphasizing understanding of the basic principles through investigation. The topics covered range from a basic algebra review to exploration of linear, quadratic, exponential, and logarithmic functions along with a study of rational expressions, inverse relations, function operations, complex numbers, and systems of equations. **Prerequisites: MATH 0670 with grade of C or better or appropriate placement test score. MnTC (Goals 4/MA and 2/CT); (3 Cr - 3 lect, 0 lab)**

MATH 1120  Trigonometry
This course builds on the computational, problem solving, and graphing skills learned in previous math courses. The topics covered in this course include trigonometric ratios, functions, graphs, identities, equations, inverse trigonometric functions, solution of the general triangle and other applications, conic sections, polar coordinates, and complex numbers. **Prerequisite: MATH 1110 or equivalent. MnTC (Goals 4/MA and 2/CT); (4 Cr - 4 lect, 0 lab)**

MATH 1210  Calculus I
This course covers the basics of calculus emphasizing understanding of the basic principles through investigation. The course begins with a review of functions and continues with limits, rates of change, derivatives, differentiation rules, applications of derivatives, and antiderivatives. Concepts are presented graphically and numerically as well as algebraically. **Prerequisites: MATH 1120 or MATH 1115 with a grade of C or better; appropriate Accuplacer or ACT score, or instructor permission. MnTC (Goals 4/MA and 2/CT); (5 Cr -5 lect, 0 lab)**

MATH 2021  Fundamentals of Statistics
This course is an introduction of basic statistical methods including sampling, analyzing a research study, measures of central tendency and dispersion, probability, confidence intervals, hypothesis testing of means and proportions, Chi-square, analysis of variance, correlation, and regression. The use of statistical software is included in this course. **Prerequisite: Math 0660 or Math 0670 or qualifying score on placement test. MnTC (Goals 4/MA and 2/CT); (4 Cr - 4 lect, 0 lab)**
PHYSICS

PHYS 1501  College Physics I
This course is the first semester of the algebra-based introductory physics sequence. The emphasis of this course is on understanding basic physics principles related to mechanics and applying those principles to the solution of physics-related problems. Laboratory work is an essential part of the course. **Prerequisite or Corequisite: MATH 1110 (College Algebra) or appropriate placement score.** MnTC (Goal 3/NS and 2/CT); (4 Cr - 3 lect, 1 lab)

PHYS 1502  College Physics II
This course is the second semester of the algebra-based introductory physics sequence. The topics covered are thermodynamics, electricity, magnetism, and optics. **Prerequisite: PHYS 1501.** MnTC (Goal 3/NS and 2/CT); (4 Cr - 3 lect, 1 lab)

PHYS 2101  General Physics I
This is the first of a two-semester physics course sequence intended primarily for students majoring in engineering, computer science, physics, astronomy, chemistry and other physical science disciplines. Students who have strong mathematical background and plan on majoring in medicine or other health science fields will also benefit from this course. Concurrent registration in its laboratory-based companion course, PHYS 2501, is mandatory. **Prerequisite: Credit or concurrent enrollment in calculus.** MnTC (Goal 3/NS and 2/CT); (4 Cr - 4 lect, 0 lab)

PHYS 2501  General Physics Lab I
This course is designed to be taken concurrently with the General Physics Theory course sequence, and it is strongly recommended that it be taken with the first of those courses. The overall laboratory course sequence is designed to familiarize students with laboratory techniques and instruments used to perform experiments in physics. Students have the opportunity to test and verify some of the basic principles of physics learned in the theory course. **Prerequisite: Concurrent enrollment in PHYS 2101.** MnTC (Goal 3/NS and 2/CT); (1 Cr - 0 lect, 1 lab)

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