

## Education

### EDUC 46 Mathematics for Elementary Education 5 Units

(Formerly Education 63.)

(See general education pages for the requirement this course meets.)

Prerequisites: Mathematics 105 or 114 with a grade of C or better.

Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or English as a Second Language 24 and 72 (or English as a Second Language 4). (Also listed as Mathematics 46. Student may enroll in either department, but not both, for credit.)

Five hours lecture.

Introduction to the discipline of mathematics as the use of logical, quantitative, and spatial reasoning in the abstraction, modeling, and problem-solving of real world situations, and its origins and applications, for elementary school teaching. Mathematical reasoning and problem solving strategies, theory of sets, integers and integral number theory, rationals and proportion, real numbers, decimal notation, and measurement.

### EDUC 58 Children's Literature 4 Units

(See general education pages for the requirement this course meets.)

Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or

English as a Second Language 24 and 72 (or English as a Second Language 4).

(Also listed as English Literature 58. Student may enroll in either department, but not both, for credit.)

Four hours lecture.

Study of the literature of children (pre-elementary through young adult) with an emphasis on poetry, folk tales, myths, fiction, fantasy, and nonfiction from a variety of cultures, ethnicities and historical periods. Evaluation of the literary quality and the cultural and historical meaning of individual works. Study of the use of children's literature as an educational tool both in the classroom and outside of it.

### EDUC 66 Introduction to Elementary Education in a Diverse Society 3 Units

Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or

English as a Second Language 24 and 72 (or English as a Second Language 4).

Two hours lecture, three hours laboratory.

Principles and practices of elementary education. Participation and observation in the elementary classroom setting. Program planning based on observations and self-assessment for the teaching profession will be implemented.

### EDUC 73 Violence and its Impact on Children and their Families 3 Units

Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or

English as a Second Language 24 and 72 (or English as a Second Language 4).

(Also listed as Child Development 73. Student may enroll in either department, but not both, for credit.)

Three hours lecture.

Students will explore violence in America and the impact violence has on the physical and psychological well being of adults and children who experience it in their lives. Students will develop a perspective on violence and its impact and have an opportunity to observe in a school or agency that works with children and families who have experienced violence in their lives.

### EDUC 74 Early Intervention Seminar and Fieldwork 3 Units

Advisories: English Writing 100B and Reading 100 (or Language Arts 100), or

English as a Second Language 24 and 72 (or English as a Second Language 4);

Child Development 73 or Education 73.

(Also listed as Child Development 74. Student may enroll in either department, but not both, for credit.)

Two hours lecture, three hours laboratory.

Provides an overview of different approaches to early intervention with children and their families and will help students develop basic support skills for use in dealing with high risk families, including those with exceptional emotional, social or physical needs.

### EDUC 500 Student Success Assistance 0 Units

(Also listed as Child Development 500. Student may enroll in either department, but not both, for credit.)

Hours determined by student attendance.

(No limit on repeatability for 0 unit classes.)

No grade (NG) course.

Provides information and assistance to students to facilitate the development and/or achievement of career and educational goals.

## Electronics

(This is a district program taught at Foothill College.)

## Engineering

### ENGR 2 The Engineering Profession 2 Units

Prerequisites: Intention to be an engineering major.

Two hours lecture.

A study of the engineering profession, its requirements, opportunities, and responsibilities. A preview of the applications of basic sciences to engineering problems. Review of engineering case studies.

### ENGR 10 Introduction to Engineering 4 Units

(Formerly Engineering 51.)

Advisory: English Writing 100B and Reading 100 (or Language Arts 100), or

English as a Second Language 24 and 72 (or English as a Second Language 4);

Mathematics 101 or 112.

Two hours lecture, six hours laboratory.

An introduction to engineering design through a variety of projects, including experimentation, data analysis, and development of computer skills. Exposure to several engineering disciplines through problem solving for the purpose of providing information to assist students in a choice of major.

### ENGR 27A Engineering Descriptive Geometry 3 Units

Prerequisites: Engineering 57.

Two hours lecture, three hours laboratory.

Theory of orthographic projection and its application to graphical solution of the more advanced three-dimensional space problems. Investigation of relationships between points, lines, planes, and solids. Application to engineering practice and geology. Designed for engineering transfer majors.

### ENGR 35 Statics 4 Units

Prerequisites: Mathematics 1B; Physics 4A.

Three hours lecture, three hours laboratory.

Principles of statics as applied to particles and rigid bodies in two and three dimensions. Vector solutions for concentrated and distributed loads. Determination of centroids and moments of inertia and the effects of dry friction. Programming computer solutions.

(CAN ENGR 8)

### ENGR 37 Introduction to Circuit Analysis 5 Units

Prerequisites: Physics 4C (may be taken concurrently) and Mathematics 1D or equivalent.

Five hours lecture.

Introduction to the analysis of lumped, linear, bilateral circuits. Basic equations, elementary network differential equations; natural and forced response of simple circuits. Development of steady state sinusoidal circuit analysis for the network differential equations.

(CAN ENGR 12)

### ENGR 45 Properties of Materials 4 Units

Prerequisites: Chemistry 1B; Physics 4B (may be taken concurrently).

Three hours lecture, three hours laboratory.

Properties of engineering materials related to basic structure, applications to the selection and use of engineering materials.

(CAN ENGR 4)

### ENGR 57 Engineering Drawing 4 Units

Two hours lecture, six hours laboratory.

Graphics communications using drawings created by instruments, a computer and sketching. Topics will include lettering, geometric construction, scales, principles of orthographic projection, sectional views, dimensioning, isometric and oblique pictorials, primary auxiliary views and specialized computer techniques.

### ENGR 77 Special Projects in Engineering 1 Unit

ENGR 77X 2 Units

ENGR 77Y 3 Units

(Formerly Engineering 40, 40X, and 40Y.)

Advisories: Mathematics 1A; consent of the instructor and division dean.

Three hours laboratory for each unit of credit.

(Any combination of Engineering 77, 77X, and 77Y may be taken up to six times, not to exceed 18 units, as long as the topics/projects are different each time.)

The student designs, assembles, and evaluates an engineering project appropriate to his major and writes a report covering the theory or background for the project, its design and construction together with a discussion of its application. Approved individual special readings are also permitted. The student is encouraged to work with a minimum of direct supervision.

### ENGR 165 Engineering-in-Training Review 4 Units

Prerequisites: Qualified to take California EIT Examination or equivalent.

Four hours lecture.

Review of Mathematics, Engineering Mechanics, Mechanics of Materials, Electricity, Fluid Mechanics, Chemistry and miscellaneous engineering problems for preparation to take the California EIT examination.

