

**DM 110 Interactive Animation: Flash****Units:** 3 **Hours:** 2 Lecture, 3 Laboratory**Advisory:** CSIS 1, CSIS 2/2L, CSIS 124 or basic computer knowledge.**Transferable:** CSU; GAV-GE: C1

The production of vector graphics, animation, and interactive multimedia in Shockwave-Flash format for web pages and other digital media. Design of highly interactive web site interfaces and animated games using Flash actions (scripting). Useful for web designers/developers, animators, and multimedia authors. This course has the option of a letter grade or pass/no pass. Also listed as ART 110 and CSIS 110. May be repeated three times for credit.

**DM 111 Sound Design for Digital Media****Units:** 3 **Hours:** 2 Lecture, 3 Laboratory**Advisory:** CSIS 1 or CSIS 2/2L or equivalent computer knowledge.**Transferable:** CSU

Study and practice of the techniques and aesthetics of sound design especially for digital media (i.e., digital video/film, DVD, video games, WWW, and presentations.) Recording (including live audio), mixing and processing of Foley effects, ADR, voice-overs, sound tracks, and narration. This is not a music composition course, but use of sampled and electronic music/loops for creating background music will also be studied. This course has the option of a letter grade or pass/no pass.

**DM 113 Introduction to Digital Video****Units:** 3 **Hours:** 2 Lecture, 3 Laboratory**Advisory:** CSIS 1 or CSIS 2/2L or equivalent computer experience**Transferable:** CSU; GAV-GE: C1

Introduction to the aesthetic and technical aspects of digital video recording, non-linear editing, special effect generation, and production of video (and associated audio) using the personal computer equipped with specialized software such as iMovie, Final Cut Pro, and After Effects. Also considered will be the preparation of digital video for use in interactive media such as CD, DVD, and the World Wide Web. Students will produce a final digital video project on DVD. This course has the option of a letter grade or pass/no pass. May be repeated 2 times for credit. Also listed as ART 113 and CSIS 113.

**DM 114 Digital Media Production****Units:** 2 **Hours:** 2 Lecture**Advisory:** At least one of the following: ART 75, CGE 2, JOUR 18A, MUS 21, CSIS 7, CSIS 71, OR CSIS 77. or possess equivalent skills from any one of the following areas: digital media, computer graphics, digital print, film, TV/video, journalism (publishing), drawing or illustration, web design/ development, business/marketing, or programming.**Transferable:** CSU

A team oriented practicum that focuses on the application of learned skills to the production of digital media and digital print projects, such as web sites, CD ROM, and DVDs. Project development will be accomplished according to team derived master schedules. Lectures will be on project management, work coordination and production techniques, client-team interface, asset management and integration, budget estimates, testing, and copyright infringement. Please note that this is very much a team oriented class. This course has the option of a letter grade or pass/no pass. This course is also listed as ART 114 and CSIS 114.

**DM 116 DVD Authoring****Units:** 2 **Hours:** 1.5 Lecture, 1.5 Laboratory**Advisory:** CSIS 1 or CSIS 2/2L or equivalent computer experience**Transferable:** CSU

Study of the artistic and technical aspects of authoring interactive DVDs (Digital Video/Versatile Disk). Special attention will be given to interactive design and the integration and conversion (encoding) of time-based media (e.g., multi-angle video, animation, Dolby sound) special to this media format. Students will be able to produce their own DVD of video, slide shows, and/or interactive games. This course has the option of a letter grade or pass/no pass. May be repeated two times for credit. Also listed as ART 116 and CSIS 116.

**DM 117 Motion Graphics/Special Effects****Units:** 3 **Hours:** 2 Lecture, 3 Laboratory**Advisory:** DM/ART/CSIS 113 or DM/ART/CSIS 140 or DM/ART/CSIS 77 or THEA 17A or basic knowledge of digital video/film editing.**Transferable:** CSU; UC

Study of the design of motion graphics and special effects used in digital video and film, web, multimedia, and interactive games. Includes video/graphics compositing techniques, 2D animation, basic 3D animation, and special effects commonly generated in digital post-production. Software such as Adobe After Effects or Apple's Motion will be used. May be repeated for credit. This course has the option of a letter grade or credit/non-credit. This course is also listed as ART 117 and CSIS 117.

**DM 140 Basic Digital Film/Video Production****Units:** 1 **Hours:** 1 Lecture**Transferable:** CSU; UC; GAV-GE: C1

An on-line self-paced course covering the basics of film/video production and post production (editing) using "easy to use" computer software such as Apple's iMovie. Beneficial for students who are producing a video/film project as a requirement for another college course, extra skills development, or for self interest. Completion of the associated class or personal project in DVD format using either personal video equipment or the equipment in the Digital Media Studio is required. May be repeated twice for credit. This course has the option of a letter grade or pass/no pass. This course is also listed as ART 140 and CSIS 140.

**Drama: See Theatre Arts****Early Childhood Education: See Child Development****Earth Science: See Geology, Geography****ECOLOGY****ECOL 1 Conservation of Natural Resources****Units:** 4 **Hours:** 3 Lecture, 3 Laboratory**Advisory:** Eligible for English 250 and English 260.**Transferable:** CSU; UC; CSU-GE: B2, B3; IGETC: 5B; GAV-GE: B2, B3

This course examines the fundamentals of ecology (the study of the relationships between organisms and their environment) with special emphasis on human effects on the environment. Topics of discussion will include ecosystem dynamics, resources, pollution, population growth, and the clash between economic and political policy and the environment.

**Education: see Child Development****ECONOMICS****ECON 1 Principles of Macroeconomics****Units:** 3 **Hours:** 3 Lecture**Advisory:** Eligible for English 1A and Mathematics 233.**Transferable:** CSU; UC; CSU-GE: D2; IGETC: 4B; GAV-GE: D2; CAN: ECON 2

Introduction to the principles of macroeconomics, social organization of the economy; supply and demand; the determinants of national income and production, economic growth, the global economy and trade, employment, prices, savings and investment; the nature and effectiveness of monetary and fiscal policy. This course has the option of a letter grade or pass/no pass.

**ECON 2 Principles of Microeconomics****Units:** 3 **Hours:** 3 Lecture**Advisory:** Eligible for English 260, English 250 and Mathematics 233.**Transferable:** CSU; UC; CSU-GE: D2; IGETC: 4B; GAV-GE: D2; CAN: ECON 4

Introduction to microeconomic principles and theory; supply, demand; product and factor price determination, resource allocation, costs, revenues, and profits under different competitive situations; international trade; government regulation and taxation. Note: Economics 1 is not a prerequisite for Economics 2. This course has the option of a letter grade or pass/no pass.

**ECON 10 Fundamentals of Economics****Units:** 3 **Hours:** 3 Lecture**Advisory:** Eligible for English 250, English 260.**Transferable:** CSU; UC; CSU-GE: D2; IGETC: 4B; GAV-GE: D2

A survey of economic concepts and systems. Topics to be covered include production and consumption, pricing and competition, economic growth, inflation, employment, money and banking, and international trade. Not open to students with credit in Economics 1 or 2. This course has the option of a letter grade or pass/no pass.

**ECON 11 Statistics for Business and Economics****Units:** 4 **Hours:** 4 Lecture**Prerequisite:** Mathematics 233.**Transferable:** CSU; UC; CSU-GE: B4; IGETC: 2A; GAV-GE: B4

Statistical methods for business/economics analysis; descriptive statistics, inference, correlation and regression, probability, time series analysis. This course has the option of a letter grade or pass/no pass. This course is also listed as BUS 11.

**ECON 14 Personal Finance****Units:** 3 **Hours:** 3 Lecture**Advisory:** Math 400**Transferable:** CSU

This course is designed to assist individuals to analyze their financial affairs for lifelong decision making. Elements and concepts of financial planning and decision making in the areas of budgeting, taxes, borrowing, money management, insurance, investments, retirement, and estate planning will be examined. This course is also listed as BUS 14. This course has the option of a letter grade or pass/no pass.

**ENGINEERING****ENGR 1 Engineering Graphics****Units:** 3 **Hours:** 2 Lecture, 3 Laboratory**Advisory:** Eligible for English 250 and English 260; Mathematics 1A - may be concurrent, and CSIS 10 - May be concurrent.**Transferable:** CSU; UC; CAN: ENGR 2

An introduction to the graphical and visual communication of the engineering design process. Topics will include the design process, visualization, free-hand sketching, orthographic projection, multi views, auxiliary views, section views, dimensioning and tolerances. Computer-aided-drafting (CAD) software will be used extensively in conjunction with traditional methods to highlight the strengths of multiple communication methodologies.

**ENGR 2 Statics****Units:** 3 **Hours:** 3 Lecture**Prerequisite:** Mathematics 1A and Mathematics 1B and Physics 4A with a grade of 'C' or better.**Transferable:** CSU; UC; CAN: ENGR 8

Vector statics. Force, moment, couple, system isolation, adequacy of constraint, concentrated and distributed loads, fluid statics, flexible cables, friction and virtual work. Bridge design project.

**ENGR 3 Electrical Circuits/Devices and Systems****Units:** 3 **Hours:** 3 Lecture**Prerequisite:** Mathematics 1A with a grade of 'C' or better. May be taken concurrently.**Advisory:** Physics 4B with a grade of "C" or better and Mathematics 2C.**Transferable:** CSU; UC; CAN: ENGR 12

Natural, forced, and steady-state response by impedance, exponential, pole-zero and phasor methods; solid state; digital circuits and laplace transform methods are introduced.

**ENGR 4 Properties Of Materials****Units:** 3 **Hours:** 3 Lecture**Prerequisite:** Chemistry 1A and Physics 4A.**Transferable:** CSU; UC; CAN: ENGR 4

Basic principles of physics and chemistry are used to determine the quantitative relationships which describe the behavior of solids. Particular emphasis is placed upon the relationship between the structure and mechanical properties of crystalline solids. Applications consider control of properties as an engineering design variable. A term paper based upon review of the periodical technical literature is required.

**ENGR 5 C++ Scientific Programming****Units:** 3 **Hours:** 2 Lecture, 3 Laboratory**Prerequisite:** Mathematics 1A**Advisory:** Completion of CSIS 10.**Transferable:** CSU; UC; CAN: CSCI 4

An introduction to computer problem solving and programming using the C++ language for science and engineering majors. Students will write programs for a variety of scientific and mathematical applications.

**ENGR 10A Introduction to Engineering I****Units:** 2 **Hours:** 1.5 Lecture, 1.5 Laboratory**Prerequisite:** Math 9 or equivalent**Transferable:** CSU; UC

Engineering 10A introduces students to the engineering profession. Topics will include an introduction to the various engineering disciplines; the role of engineers and engineering in society; the curriculum requirements for the various engineering disciplines at different four-year institutions; academic success strategies; personal and professional development techniques; an introduction to the engineering design process; an introduction to engineering problem-solving methodologies; engineering ethics; communication skills; and working as a member of a team. Engineering 10A and 10B, together, are equivalent to Engineering 10 at San Jose State University.

**ENGR 10B Introduction to Engineering II****Units:** 2 **Hours:** 1.5 Lecture, 1.5 Laboratory**Prerequisite:** Engineering 10A**Transferable:** CSU; UC

Engineering 10B continues the introduction to the engineering profession begun in Engineering 10A. Topics will include an introduction to experimental methods and data analysis; continued introduction to the engineering design process with more challenging design problems and the introduction of analysis in engineering design; engineering problem-solving using the personal computer; continued personal and professional growth techniques; communication skills; and working as a member of a team. Engineering 10A and 10B, together, are equivalent to Engineering 10 at San Jose State University.

All courses listed here are part of Gavilan College's approved curriculum. All courses are not offered every semester. Check the Class Schedule for current offerings.