

Computer Science - Catalog of Classes

(Refer to the Fall/Spring class schedule if your class of choice is being offered that semester.)

COMPUTER SCIENCE G101 - 3 Units

Computer Literacy

This course is designed to provide students with a brief overview of computing concepts and terminology. It will acquaint the student with the social implications of pervasive computer technology in our society. A good course for the student who wants a first experience in computing. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU; UC.

COMPUTER SCIENCE G102 - 4 Units

Computer Software Development, Introduction

This course will introduce students to the basic principles of computers and software development. Computer architecture concepts and principles of operation, operating systems basics, file management, and software development principles will be discussed, demonstrated and practiced. Common programming languages, including Java, C, C++, and Visual Basic will be discussed and small programs in each language will be written. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU.

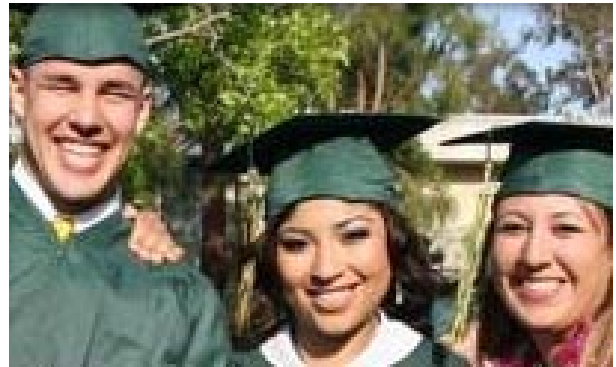
COMPUTER SCIENCE G121 - 4 Units

Creating Game Artwork, Introduction

(Formerly known as: COMPSC121AD)

Advisories: Computer Science G130

This course is a study in the process of computer game artwork and animation. Students will be introduced to the basic building blocks of 3D game artwork and the process of its creation. Concepts of graphics objects, rendering, shading, alpha blending, texture mapping, and materials will be discussed. Students will learn hands on 3D computer modeling techniques as well as texture map creation using a digital imaging software and UV mapping tools. This course may be taken 4 times. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU.



COMPUTER SCIENCE G127 - 4 Units

Introduction to Programming with PHP and MySQL

(Formerly known as: COMPSC127AD)

Advisories: Comp Sc G102 or Comp Sc G130

This course will cover the fundamentals of Web-based software development using the PHP scripting language together with HTML and MySQL Open Source Database.

The process of software development will be discussed to include: designing, writing source code, executing, and testing and debugging. Data types, arithmetic and logical expressions, debugging, looping, branching, modularization, simple database access, simple database structures and simple HTML will be discussed in lectures and practiced through lab projects. Web-based Internet applications will be designed and created. This course may be taken 4 times. Lecture & lab. Optional pass/no pass or grade.

COMPUTER SCIENCE G130 - 4 Units

Survey of Computer Science/Information Technology

This class surveys computer science and information technology with emphasis on computer business applications. The student will be exposed to computer concepts including components of a computer, operating systems, utility programs, terminology, communications, networking, internet usage, ethical issues and computer application software, such as word processing, spreadsheets, database, database query and presentation software. The student will complete projects in a desktop computer environment. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU; UC. (CAN

BUS 6) Lecture & lab. Optional pass/no pass or grade. Transferable to CSU; UC.
(CAN BUS 6)

COMPUTER SCIENCE G135 - 4 Units UNIX/Linux Operating System

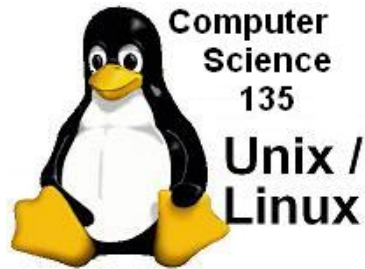
(Formerly known as: COMP SC 135AD)

Advisories: Computer Science G102 or Computer Science G103

This course provides an overview of UNIX / Linux Operating System. Students will

learn concepts such as file system, variables and permissions, plus file and directory

management commands, editors, filters, links and redirection. Lab sessions will be provided to practice and finish home works executing UNIX / Linux commands, both in the shell and the Graphical User Interface (GUI) environments. This course may be taken 4 times. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU; UC.



COMPUTER SCIENCE G145 - 4 Units C Language Programming

(Formerly known as: Computer Programming in C Language)

Advisories: Previous computer programming experience.

This course is a study of structured programming and systematic software development using the C language. Various data types, arrays, pointers, structures, and functions will be used to implement data tables, string functions, and interface algorithms. This course may be required for transferring Engineering/Math/Science majors. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU; UC. (CAN CSCI 16)

COMPUTER SCIENCE G147 - 4 Units Game Programming, Introduction

(Formerly known as: COMPSC147AD and Introduction to Game Programming)

Advisories: Computer Science G177 or G178



This course is designed to study the principles of computer game development.

Students will be introduced to the basic building blocks of computer games and learn about the various game engines. Concepts of graphics objects, rendering, shading, transformation, alpha blending, stenciling, texture, and materials will be discussed and practiced. This course may be taken 4 times. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU.

COMPUTER SCIENCE G148 - 4 Units Game Programming, Intermediate

(Formerly known as: COMPSC148AD and Intermediate Game Programming)

Advisories: Computer Science G147

This course will present intermediate techniques and principles in developing computer games. Students will study and develop custom game engines, experiment with custom shaders using HLSL (High-Level Shading Language), interact with gaming input devices, study object motion and collision, integrate sound, and build and import characters using animation software. Visual Studio .Net will be used to create managed DirectX programs on the Windows platform. This course may be taken 4 times. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU. Offered spring semester only.

COMPUTER SCIENCE G149 - 4 Units Game Programming, Advanced

Advisories: Computer Science G148

This course will present advanced techniques and principles in developing multiplayer computer games. Students will study and develop advanced game engines, optimized 3D rendering sub-systems, Level Editors, and artificial intelligence algorithms for multiplayer online games. Visual Studio .Net and DirectX will be used to create multiplayer games on the Windows platform. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU.

COMPUTER SCIENCE G150 - 4 Units Mobile Game Programming

(Formerly known as: COMP SC150AD)

Advisories: Computer Science G148

This course will cover the principles of video game development for mobile devices.

Students will be introduced to the basic building blocks of mobile platforms and the tools and components available for developing video games for these platforms. Concepts of graphics libraries, simulation tools, debugging facilities, memory and

performance limitations, and development methodologies will be discussed and practiced. This course may be taken 4 times. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU.

COMPUTER SCIENCE G153 - 4 Units **Java Programming, Introduction**

(Formerly known as: COMPSC153AD and Introduction to Programming with J)
Advisories: Computer Science G102, Math G030
This course will cover the fundamentals of software



development using the Java Language. The discussions of software development process will include: designing, writing source code, compiling, linking, executing, and debugging. Data types, arithmetic and logical expressions, debugging, looping, branching,

modularization, dynamic memory allocation, classes and objects will be discussed in lectures and practiced through lab projects. Both console and GUI-based (Graphical User Interface) applications will be designed and created. This course may be taken 4 times. Lecture & lab. Optional pass/no pass or grade. UC Credit limitations: Computer Science G153 and G174 combined maximum credit, one course. Transferable to CSU; UC.

COMPUTER SCIENCE G154 - 4 Units **Java Data Structures, Advanced**

Advisories: Computer Science G153
Advanced programming techniques and Object Oriented Programming principles in Java will be exploited in learning the concepts of data structures. Students will gain theoretical and hands-on experience with the implementation of typical data structures (e.g., arrays, queues, stacks, linked-lists, trees, hashing, and graphs) used in programming applications. Principles of recursion, sorting, searching, optimization, classes, objects, inheritance, and polymorphism will be explored and practiced. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU; UC. Offered spring semester only.

COMPUTER SCIENCE G170 - 3 Units **Introduction to Business Software Solutions**

(Same as: Business G170, Management G170)
This course will provide students with knowledge and understanding of current software

systems that enable businesses to ship and deliver materials and services. It will survey practices in enterprise software solutions such as Enterprise Resource Planning, Supply Chain, and Customer Relationship Management. The course will provide an overview of the use of technology to improve productivity and efficiency which is an essential part of today's business landscape. Recommended for people desiring a future in Management, IT Management, Business or Accounting. Lecture. Optional pass/no pass or grade. Transferable to CSU.

COMPUTER SCIENCE G171 - 4 Units **SQL Programming, Introduction**

(Formerly known as: Introduction to SQL)
Advisories: Computer Science G145 or G153
This course will cover the fundamentals of database development using Structured Query Language (SQL). Using Access and Microsoft SQL Server, students will create databases, tables, indexes, rules, triggers, stored procedures, views, users, groups, and various other database objects. Complex SQL queries and transactions will also be discussed and implemented. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU.



COMPUTER SCIENCE G175 - 4 Units **C++ Programming**

(Formerly known as: COMPSC175AD and Programming with C++)
Advisories: Computer Science G102, Math G030
This course will cover the fundamentals of software development using the C++ Language. The discussions of software development process will include: designing, writing source code, compiling, linking, executing, and debugging. Data types, arithmetic and logical expressions, debugging, looping, branching, modularization, static and dynamic memory allocation, classes and objects will be discussed in lectures and practiced through lab projects. Both console and GUI-based (Graphical User Interface) applications will be designed and created. This course may be taken 4 times. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU; UC.



COMPUTER SCIENCE G176 - 4 Units

Java Database Programming

(Formerly known as: Database Programming with Java)

Advisories: Computer Science G154

This course will cover the fundamentals of database programming using Java related technologies such as JDBC and Swing. Multi-tiered client/server and web-based applications will be discussed and created that will utilize Microsoft Access and Microsoft SQL Server databases. Structured Query Language will be discussed and practiced.

Principles of distributed software development using J2EE will also be discussed.

Lecture & lab. Optional pass/no pass or grade.

Transferable to CSU.

COMPUTER SCIENCE G177 - 4 Units

Visual Basic.NET

(Formerly known as: COMPSC177AD)

Advisories: Computer Science G153 or G175

This course will cover software development in the Microsoft .NET framework. Visual



Basic .NET will be used as the development tool to discuss and practice Windows based and Web-based applications.

This course prepares students for Microsoft.NET Framework Web-Based Development Certificate and Windows Client Development

Certificate. This course may be taken 4 times.

Lecture & lab. Optional pass/no pass or

grade. Transferable to CSU.

COMPUTER SCIENCE G178 - 4 Units

Visual C# .NET

(Formerly known as: COMPSC178AD)

Advisories: Computer Science G153 or G175

This course will cover software development in the Microsoft .NET framework. Visual

C# .NET will be used as the development tool to discuss and practice Windows based applications and Web-based applications. This course prepares students for

Microsoft.NET Framework Web-Based Development Certificate and Windows Client

Development Certificate. This course may be taken 4

times. Lecture & lab. Optional

pass/no pass or grade. Transferable to CSU.

COMPUTER SCIENCE G185 - 3 Units

World Wide Web

Advisories: Computer Science G130

Discussions will include: the history, present status, and future trends of global communications via the Internet; network topologies and communication protocols; and

Internet servers (World

Wide Web, gopher,

etc.). Student will

search the Internet's

cyberspace, create

HTML (HyperText

Markup Language)

pages, learn Visual

Basic

Scripting and Java Scripting, understand e-mail,

Gopher, File Transfer Protocol, and

various other internet related tools and utilities.

Lecture & lab. Optional pass/no pass or

grade. Transferable to CSU.



COMPUTER SCIENCE G189 - 4 Units

Data Structures with C++

Advisories: Computer Science G175

Advanced programming techniques and Object

Oriented Programming principles in

C++ will be exploited in learning the concepts of data

structures. Student will gain theoretical

and hands-on experience with the implementation of

typical data structures (e.g.,

arrays, queues, stacks, linked-lists, trees, hashing,

and graphs) used in programming

applications. Principles of recursion, sorting,

searching, optimization, classes, objects

inheritance, and polymorphism will be explored and

practiced. Lecture & lab. Optional

pass/no pass or grade. Transferable to CSU; UC.

Offered spring semester only.

COMPUTER SCIENCE G195 - 4 Units

Client-Server Application Development

Advisories: Computer Science G177

This course will cover the fundamentals of Client-Server application development.

Two- and Three-tier enterprise application design and development topologies will be

discussed and practiced through assignments. Visual

Basic.Net, Visual C# .Net, ADO.

Net (ActiveX Data Objects), Microsoft SQL Server,

and Structured Query Language

(SQL) will be used in building real-life enterprise

applications. Web Services will be

studied and created to provide internet-wide sharing

of business services. Lecture & lab.

Optional pass/no pass or grade. Transferable to CSU.

COMPUTER SCIENCE G196 - 4 Units

Web Programming with .NET

(Formerly known as: COMPSC196AD)

Advisories: Computer Science G177 or G178
Students will study and build eCommerce and eBusiness applications using various tools, languages, & utilities to include: Visual Basic .Net, C#, Code Behind, Active Server Pages.Net, ActiveX Data Objects.Net, Structured Query Language (SQL) & Common Gateway Interface. Web services will be discussed and implemented using XML, SOAP, WSDL, & UDDI. This course prepares students for Microsoft .NET Framework Web-Based Development Certificate. This course may be taken 4 times. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU; UC.

COMPUTER SCIENCE G198 - 4 Units **Enterprise Java Development with J2EE**

Advisories: Computer Science G154



This course will cover the fundamentals of enterprise-level, distributed and database driven Java applications using J2EE (Java 2 Enterprise Environment).

Various J2EE related technologies will be discussed and practiced including: JavaServer Pages (JSP), Enterprise JavaBeans (EJB), JDBC (Java Database Connectivity), Servlets, Applets, JNDI (Java Naming and Directory Interface), Jars, XML (Extended Markup Language), session and state management. Lecture & lab. Optional pass/no pass or grade. Transferable to CSU.

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