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USC Viterbi
School of Engineering
Information Technology Program
The Information Technology Program at the USC Viterbi School of Engineering offers classes to all students across the university. In ITP classes, you can learn to use advanced software, create websites, perform data analysis, write computer programs, and investigate cybercrime.

You’ll get practical, hands-on experience. No matter what your major is, you can learn how to use the latest tools, programming languages, and applications. You’ll also gain critical insight into technology’s increasing impact on our world.

All students are welcome to register for ITP classes, and our introductory classes do not require a background in technology or engineering.

Solve problems with programming
Learning to write in programming languages like Python teaches you how computers use logic to solve problems — and how you can think about solutions in new ways.

Make decisions using data
Learning to analyze data teaches you how to make informed decisions.

Tell stories on screens
Learning to create digital graphics, 3D models, and user experiences teaches you to effectively communicate.
2-unit classes

Become a Microsoft Excel and Adobe Dreamweaver master
Use HTML, CSS, and JavaScript to design websites
Learn Python, a great programming language for data analysis and web development
Study cyber threats investigation, and defense

ITP-101
Introduction to Business Information Technologies
Survey computer hardware, operating systems, networks, programming, and software to understand how technology accomplishes business goals. You'll learn how to use advanced spreadsheet features in Microsoft Excel, databases in Access, and mail merge in Word. You'll also explore security issues, digital communication practices, social media marketing, and new technologies.

ITP-104
Web Publishing
Design, code, and publish websites using HTML, CSS, and JavaScript. You'll practice using web development tools, styling with custom layouts and fonts, and adding JavaScript for interactivity. You'll learn how to create image galleries, forms, and animations — and how to publish your sites to web servers. By creating many webpages and practicing markup, styling, and interactivity, you'll prepare for more advanced topics in web design and development.

ITP-115
Programming in Python
Start writing programs in the Python language, an easy-to-read programming language used for web applications, data analysis, and scientific research. You'll learn to think like a programmer to solve problems, control flow, and implement graphical user interfaces (GUIs) to create simple programs. This class is the introduction to the core programming sequence (ITP-115 → ITP-265 → ITP-365) — by the end of the semester, you'll be prepared for more advanced topics in object-oriented programming and web, mobile, and desktop application development.

ITP-125
From Hackers to CEOs: Introduction to Information Security
Crack passwords, recover deleted files, create and identify spoof emails, and discuss current issues in the field to develop a foundation in cybersecurity and digital forensics. You'll study threats to information integrity, learn about security mechanisms and policies, and study how security infrastructure intersects with business and IT functions. Prepare for advanced courses in ethical hacking, information security, and digital forensics.
Learn to use Adobe Photoshop, Illustrator, and InDesign

ITP-190  Tools for Digital Graphics
Learn how to use Adobe Photoshop to create, edit, and export images and photographs. You’ll explore the user interface, toolsets, and advanced features to design postcards, book covers, product packaging, magazine covers, and t-shirt designs. You’ll learn how to work with layers and masks, draw and create vector graphics, work with type and color, and prepare images for professional print and web output. You’ll also learn how to use Adobe Illustrator and InDesign to complement your graphic design work in Photoshop.

Edit videos and create motion graphics in Apple Final Cut Pro and Motion

ITP-211  Power-Tools for Visual Communication
In a world where videos move millions and a picture is more powerful — and popular — than the written word, a key survival skill in college and into future careers is how well you communicate with images. Learn how to use software in three key areas — still images, motion graphics, and video editing — to communicate your ideas with impact. You’ll use Adobe Photoshop, Audition, Apple Motion, and Final Cut Pro to create compelling posters, videos, presentations, and commercials.

Create 3D characters from scratch in Autodesk Maya

ITP-215  Introduction to 3D Modeling, Animation, and Visual Effects
Learn how to create 3D characters, animations, environments, and objects using Autodesk Maya. By practicing different 3D modeling, surfacing, and special effects tools, you’ll gain an applied foundation in the creation of 3D content for animation, games, entertainment, and design. You’ll also explore the production cycle of animation, what pipelines are and how they are implemented to support the production process, and how to manage vision, budget, and time constraints.

Design and print 3D prototypes for new devices

ITP-228  Computer-Aided Modeling for 3D Product Design
Learn how to use 3D modeling software and 3D printers to manufacture prototypes for smart devices. Create a variety of 3D models, prepare products for printing, successfully print products, and work with Raspberry Pi enclosures. You’ll also explore how to design products based on manufacturing needs and work within manufacturing limitations and scope.
**ITP-230**

**Video Game Quality Assurance**

Survey the game software development cycle, quality assurance, and bug testing. You’ll learn how to use online bug-tracking software systems like Bugzilla as well as offline bug-tracking spreadsheets — and you’ll learn the best communication practices to report software problems so that they can be fixed by the development team. You’ll also explore the retail side of video game development, pre-production, test trees, test flow diagrams, and quality appraisal. Upon completion of this class, you’ll be able to fulfill the job requirements of an entry-level quality assurance tester in the video game industry.

**ITP-249**

**Introduction to Data Analytics**

Data is an integral part of business and society. To be successful in today’s business landscape, you need to be able to leverage data to make critical business decisions. Learn how to use Excel, SQL, NoSQL, and leading industry tools to collect, clean, and analyze data, interpret data, present insights using data visualization and dashboards, and tell compelling stories with data.

**ITP-256**

**Blockchain**

Blockchain technology is wider and has more use cases than just one of its most popular applications: the Bitcoin cryptocurrency. Explore blockchain technology and its applications in cryptocurrency, financial services, government, contracting, and more. You’ll learn how blockchain works, the real-world problems that blockchain tries to solve, and how decentralized applications can be built on the blockchain. You’ll prepare to propose new use cases for blockchain and to build applications on platforms like Ethereum in advanced classes.

**ITP-280**

**Video Game Production**

Explore the video game development process — including design, art, programming, and management — and the project lifecycle from concept to launch. You’ll practice creating game prototypes using various hardware and software tools that aid in the video game production process. You’ll also discuss how programmers can include features like artificial intelligence (AI), network and multiplayer support, and graphic and sound effects.
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Jeffrey Miller
Zune Nguyen
Rob Parke
Tom Sloper
Richard Vawter
Kendra Walther
Matt Whiting
Lance Winkel

PROGRAMS
3D Computer Graphics and Modeling
Applied Analytics
Applied Computer Security
Blockchain
Computer and Digital Forensics
Computer Programming
Connected Devices and Making
Enterprise Information Systems
Innovation: The Digital Entrepreneur
Mobile App Development
Video Game Design and Management
Video Game Programming
Web Technologies and Applications

AFFILIATED PROGRAMS
Data Science
Foundations of Data Science
Intelligence and Cyber Operations

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