

Information Technology (ENTD)

ENTD120 User Experience I (3 semester hours)

This is an introductory course on user experience (UX). It explores fundamentals concepts, principles, theories, laws, and techniques of UX. It examines how UX affects the success or failure of a business or an organization. The course also addresses psychology, ethical implications of UX and user design principles. This course will serve as the foundation for other related UX courses.

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD120>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD200 Fundamentals of Programming (3 semester hours)

This course introduces students to writing computer programs. The class presents the principles of structured programming using the Python® language, one of the most increasingly preferred languages for programming today. Because of its ease of use, it is ideal as a first programming language and runs on both the PC and Macintosh platforms. The course is designed for people without previous programming experience who do not necessarily plan on becoming professional programmers. However, the knowledge gained in the class can be applied later to other languages such as C and Java®. Participants learn to solve problems logically by breaking them into smaller pieces, which can then be solved. The course uses standard Python to afford a more interactive experience. Topics include: introduction to computing - how does a computer work?; input and output - getting information to and from the user; variables and expressions - performing arithmetic; data statements - reading information from inside the program; text files - reading information from other files; arrays - groups of variables; debugging - finding errors in your program; graphics; and formatting - changing how things look on the screen. Python® is a registered trademark of the Python Software Foundation. JavaScript® is a registered trademark of Oracle America, Inc.

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD200>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD220 Introduction to Python® (3 semester hours)

The course presents the principles of object-oriented programming using the Python® language, one of the most increasingly preferred languages for programming today. Python is a high-level general-purpose programming language that is portable and used on different systems to include UNIX and Mac—it is platform independent. Python has been touted as one of the most powerful and easy to learn programming languages. The course addresses syntax, types, variables, strings, branching, loops, tuples, lists, dictionaries, functions, files, exceptions and other related concepts and terms in an effort to establish a solid foundation for more advanced programming using structured language. The course will also provide both conceptual and scenario based exercises, thus enabling students to experience the maximum amount of comprehension and retention of material covered. The Python interpreter is available online for free. This software is not provided by the course material grant and must be purchased/ provided by the student. (Prerequisites: ENTD200 or ENGR200) Python® is a registered trademark of the Python Software Foundation.

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD220>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD261 Scripting Languages for the Administrator (3 semester hours)

This course introduces the scripting languages necessary in custom programming for server administration and security purposes. Introductory level programming will be covered using scripting languages such as JavaScript®, VBScript®, Windows Shell Script, Python® and SQL. Previous programming experience is recommended. You must have access to a Windows®-based system to successfully complete the assignments in the course. JavaScript® is a registered trademark of Oracle America, Inc. VBScript® is a registered trademark of Microsoft Corporation. Python® is a registered trademark of the Python Software Foundation. Windows® is registered trademark of Microsoft Corporation.

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD261>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD268 Information System Design (3 semester hours)

This course is an overview of the system development life cycle. Emphasis on current system documentation through the use of both classical and structured tools/techniques for describing process flows, data flows, data structures, file designs, input and output designs and program specifications. Discussion of the information gathering and reporting activities and of the transition from analysis to design. View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD268>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD278 Object Oriented Design (3 semester hours)

This course is a study of the principles, practices, and technical architecture and development characteristics of Object Oriented Programming and an examination of the differences between object oriented programming and traditional programming. It examines objects, instances, classes, inheritance, polymorphism, encapsulation, abstraction, methods, attributes, tight-encapsulation, interfaces, type casting, type conversions, and object libraries. This course differentiates between single-inheritance model and multiple inheritance models. This course also explores the foundations of the Unified Modeling Language (UML), class models, state models, and interaction models. (Prerequisites: ENTD268)

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD278>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD300 User-Centered Experience Behavioral Design (3 semester hours)

This course provides a study of behavioral user experience (UX) techniques, strategies, tools, and tactics. This course will be taught utilizing a mixture of analytical and practical methods. The course examines UX principles and human behavior patterns, as well as how they are used to improve the UX design of products, services, and processes. Course topics include common types of behavioral UX Issues, user personas, behavioral UX data analysis, and user behavior and psychology. Other topics covered in the course include behavioral design, human computers and cognition, and usability analysis. The course begins with introductory UX concepts and lays the foundation for more advanced topics. The course covers both conceptual and scenario-based exercises, which will enable students to more easily comprehend and retain the course material. (Prerequisite: ENTD120 and WEBD122)

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD300>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD301 User Experience Strategy (3 semester hours)

This course introduces concepts and strategies for creating a successful User Experience (UX). It examines various UX design principles and associated business strategies. In a team approach, students will use strategy tools and techniques to address user-centric problems and find innovative solutions that are useable, accessible, reliable, desirable, stable, and secure for users. Topics covered in this course include the evolution of UX strategy, the tenets of UX strategy, value propositions and innovation, target users, user research and analysis, and business model prototype. (Prerequisite: ENTD120)

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD301>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD313 Mobile Application Design and Development (3 semester hours)

This course is an introductory study of mobile application design and development and how enhanced mobile devices are changing the face of technology. The course begins with some introductory concepts to lay the foundation for more advanced topics, such as regarding development platforms, cross-platform development, mobile operating systems, the mobile web, The Internet of Things, and artificial intelligence in mobile apps. Also, the course will cover a theoretical overview of mobile application, design and development issues, and practical application concerns. Conceptual and scenario-based exercises will be used to reinforce student learning in the course. To do well in this course, students will need introductory-level programming experience and/or knowledge; no specific programming language is required.

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD313>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD320 Intermediate Python® Programming (3 semester hours)

This course presents the principles of object-oriented programming using the Python® language, one of today's preferred languages for programming. Python is a high-level general-purpose programming language that is portable and used on different systems, including UNIX and Mac, and it is platform independent. Python has been touted as one of the most powerful and easy-to-learn programming languages. The course addresses data structures and algorithms; efficient and scalable Python programming; RESTful application programming, interface services, microservices, and multiprocessing using the Python programming language; and other related concepts and terms in an effort to establish a solid foundation for more advanced programming using structured language. The course will also provide an intermediate level of both conceptual and scenario-based exercises, thus enabling students to maximize their comprehension and retention of material covered. The Python interpreter is available online for free. This software is not provided via the course material and must be obtained by the student. (Prerequisite: ENTD220)Python® is a registered trademark of the Python Software Foundation. View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD320>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD323 App Development (3 semester hours)

This course studies application development for various mobile devices and covers how to enhance the use of mobile devices with uniquely designed application software. The course expands on concepts introduced in other mobile application design and development courses and allows students to design and develop a prototype app. In addition, this course covers scenario-based exercises and requires students to use assigned tools to write, test, and deploy mobile software applications associated with applicable operating systems. Before the class begins, students must install the latest Xcode®, available from the App Store. Students must have access to an Apple computer with Xcode installed to successfully complete this course. Students will also need intermediate-level programming experience and/or knowledge, including previous programming experience using an object-oriented C-based language such as C#, Java®, Python®, or C++. (Prerequisite: ENTD313)Xcode® is a registered trademark of Apple, Inc. JavaScript® is a registered trademark of Oracle America, Inc. Python® is a registered trademark of the Python Software Foundation. View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD323>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD380 Introduction to Object Oriented Programming with Java® (3 semester hours)

This course is an introduction to the concepts and principles of Object-Oriented Programming (OOP) using Java® programming language. Writing programs for mobile devices such as smartphones and tablets is in growing demand. Java is one of the most popular programming languages used to address this need, especially for requirements involving several computing devices. The course addresses Java fundamentals, branching and loop control structures, subroutines, objects and classes, Graphical User Interface (GUI) program, arrays, recursion and linked data structures, and other Java related concepts and principles. This course solidifies a theoretical overview of designing and developing applications using Java programming language. The course will also provide both conceptual and scenario based exercises, thus enabling students to experience the maximum amount of comprehension and retention of material covered. This software is not provided by the course material grant and must be purchased/ provided by the student. (Prerequisite: ENTD200)Java® is a registered trademark of Oracle America, Inc. View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD380>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD381 Object Oriented Programming With Java® (3 semester hours)

This course is a study and application of the principles and concepts of Object-Oriented Programming (OOP) as it is implemented in the world of Java®; including inheritance, encapsulation, and polymorphism. It appraises the processes and practices used to develop IT solutions that are reusable, modular, and small; all of which are popular objectives in the world of IT management. This course explores the inheritance (is a), containment (has a), and collaboration (use a) relationships; and examines the major packages in the Java Class Library, strings, arrays, classes; instantiation, properties, methods, constructor methods, method overloading, method overriding, inheritance modifiers, access modifiers, interfaces, and packages. This course also assesses exception handling with the use of "try," "catch," and "finally." Students must have access to the latest edition of the Java Development Kit. This software is not provided by the course material grant and must be purchased/provided by the student. (Prerequisites: ENGR200 or ENTD380)Java® is a registered trademark of Oracle America, Inc. View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD381>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD411 Application Development (3 semester hours)

This course covers issues of software project development from the perspective of a manager and of an application developer: from conception, to prototyping, to interfacing with analysts, supervisors/team leaders and management, through to product testing, release, and maintenance. Also covered are issues related to revision control, coding under stress, and strategies for dealing with budget and schedule overruns. Particular attention is given to strategies for maintaining code quality, programmer productivity, and coding and design standards under budget, staffing, and time constraints. Lateral versatility of the developer within project roles across a project's life span (such as often occurs in small software companies) is emphasized. (Prerequisite: ENTD200)

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD411>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD460 Desktop Development with .NET Framework (3 semester hours)

This course studies the .NET framework. Students will examine the differences between Visual Basic for Applications (VBA) and VB.NET. Students will examine Common Language Runtime (CLR), Microsoft Intermediate Language (MSIL), .NET Framework Class Library, and Visual Basic.NET (VB.NET). The course will create classes, properties, methods, constructor methods, sub-procedures, and function-procedures. Students will handle events, explore datatypes, build Windows forms, add and interact with controls, specify events, develop event-handling code, and add menus. Students will also evaluate ADO.NET, choose an ADO.NET provider, connect to a database, and perform database interactions. Students must have access to Visual Studio® 2019 Community Edition (or higher). This software is not covered by the course material grant and must be purchased/provided by the student. (Prerequisite: ENTD200) Visual Studio® is a registered trademark of Microsoft Corporation.

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD460>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD462 Enterprise Development Using ASP.NET (3 semester hours)

This course is a study of the theory, concepts, and applications of the Active Server Page (ASP.NET) web development environment. Students will learn about working with the page (web form, error handling, tracing, page personalization, and rich page composition), the ASP.NET object Model (request, response, server, session, application, global.asax file, and collaborative data object), the HTTP Request Context and life cycle. The student will also manage and establish state across HTTP connections, MVC model and web services. Students must have access to Visual Studio® or Visual Web Developer Express Edition® software. (Prerequisite: ENTD200 and ENTD361) Visual Studio® and Visual Web Developer® are registered trademarks of Microsoft Corporation.

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD462>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD463 Enterprise Development Using C# (3 semester hours)

This course is a study of the C# language and its object-oriented facilities to create applications using the .NET Framework. Students will explore data types, classes, methods, parameters, properties, interfaces, iteration, conditional branching, constructor methods, and destructor methods. They will examine parameter passing, method overloading, method overriding, access modifiers, exception handling, and event handling. They will also create forms with controls, and with event handling for these controls. Students will also use Visual Studio.Net to set profiles, create projects, use the solution explorer, set references, set project properties, use the code editor, define assembly information, compile the code, run the application, and debug the program. Students must have access to Microsoft Visual Studio® software. Students must have access to Microsoft Visual Studio 2010 or Visual C# 2010 Express Edition or higher. (Prerequisites: ENTD200 and ENTD361) Microsoft Visual Studio® is a registered trademark of Microsoft Corporation.

View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD463>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD464 Enterprise Development using .NET: Project (3 semester hours)

This course evaluates the process for designing, developing, and deploying .NET enterprise applications. This course is a culmination of courses on Visual Basic.Net, ASP.Net, and C#.Net; the student will apply the knowledge and skills learned in these courses to develop and deploy a web-based application. This course investigates the process for configuring the .Net Framework and examines the issues related to project integration and application deployment. Students must have access to Visual Studio® 2008 or Visual Web Developer® 2008 Express Edition (or higher) and Microsoft Access® 2007 (or higher) software. This software is not provided by the course material grant and must be purchased/provided by the student. (Prerequisite: ENTD200) Visual Studio®, Visual Web Developer® and Microsoft Access® are registered trademarks of Microsoft Corporation. View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD464>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.

ENTD481 Enterprise Development using J2EE (3 semester hours)

This course focuses on the concepts and principles of designing, developing, and deploying N-Tier Java® based enterprise web applications. It examines the architectures, the process, the Java Servlet life cycle, and the practices for developing and deploying Java Server Pages (JSP), Java Servlets, and JavaBeans based enterprise web applications. This course also explores the concepts of Java Database Connectivity (JDBC), connection pooling, exception handling, data integrity, and transaction controls. It assesses the impact of enterprise web architectures and applications on global ecommerce and economies. Students must have access to the latest edition of the Java Development Kit, J2EE Development Kit, and Apache Tomcat. This software is not provided by the course material grant and must be purchased/provided by the student. (Prerequisite: ENTD381) Java® is a registered trademark of Oracle America, Inc. View the course schedule (<https://www.apus.edu/course-schedule/details.html?c=ENTD481>) to find out details about each course including prerequisites, course objectives, course materials, a snapshot of the syllabi, and session dates.