LAKESHORE TECHNICAL COLLEGE

INFORMATION TECHNOLOGY (IT) • WEB AND SOFTWARE DEVELOPER

Program Number 10-152-7
Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

The program curriculum focuses on programming principles, including web application development, mobile device development, database administration, and integration of web marketing and website design. The program is offered in a traditional, face-to-face or 100% online delivery.

PROGRAM OUTCOMES

• Design web and software applications.
• Apply data persistence technologies.
• Develop software applications.
• Develop documentation.
• Develop web applications.
• Use Infrastructures.
• Analyze new technologies.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

ADMISSIONS AND FIRST SEMESTER ENROLLMENT STEPS

 - Submit online application.
 - Complete the online Student Success Questionnaire.
 - Schedule your First Time Program Counseling/Registration Session with your assigned program counselor to plan your first semester schedule, review your entire plan of study and discuss the results of the Student Success Questionnaire.

Submit transcripts and test scores (optional, highly recommended): College transcripts, along with high school transcripts and test scores from within the last five years, used for course registration. Official transcripts needed for transferring college credit(s) and for financial aid purposes.

FUTURE SEMESTER ENROLLMENT STEPS

- Complete online Student Success Tutorial prior to registering for second semester.

APPROXIMATE COSTS

• $143.45 per credit tuition (WI resident) plus $8.61 per credit student activity fee. Material fee varies depending on course. Other fees vary by program. Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Admissions Advisor about how to apply for aid.

SPECIAL NOTE

• Students are required to have access to a computer with internet connectivity. Computers are available at LTC's campuses for those students who do not have a computer and/or internet access at home.
• Students are required to purchase a domain name and web hosting in Terms 2 and 4. The approximate cost is $60 per term.
• Students are strongly encouraged to take Written Communications during the summer before enrolling in Term 1 classes. General Education courses during summer term allow concentrated time during the fall and spring term for core program courses, and enrolling in Math with Business Applications in the first term.

CONTACT

LTC Admissions Advisor
920.693.1162 • Admissions@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10152100	Programming Introduction	4
10152124	Intro to Database Design and Development	2
10152196	Web Development 1	3
10804123	Math with Business Applications	3
		12
Term 2		
10152199	Web Development 2	4
10152187	Web Development 3	4
10201118	Advancements in Web and Development	2
10801195	Written Communication	3
		13
Term 3 (Summer)		
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
10809195	Economics OR 10809166 Introduction to Ethics	3
		6
Term 4		
10152109	Object-Oriented Programming 1	4
10152112	Object-Oriented Programming 2 OR 10152190 Web & Software Developer Internship	4
10152123	Mobile Device Development 1	3
10809196	Introduction to Sociology OR 10809172 Introduction to Diversity Studies	3
		14
Term 5		
10152106	Integrated Web Concepts	4
10152114	Mobile Device Development 2	3
10152117	Object-Oriented Programming 3	4
10152119	Portfolio Assessment-Web and Software Dev	1
10809198	Introduction to Psychology OR 10809188 Developmental Psychology	3
		15
		TOTAL 60

REAL EXPERIENCE FOR THE REAL WORLD

2022-23

ADVANCEMENTS IN WEB AND DEVELOPMENT…will explore the latest trends in Web design and development. Students will apply advanced techniques to create progressive and contemporary websites. PREREQUISITE: 10152196 Web Dev 1

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems. growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues. COREQUISITE: 10838105 Intro to Reading and Study Skills or Reading placement assessment equivalent or CONDITION: 610062 Agribusiness/Financial Basic program admissions met

INTEGRATED WEB CONCEPTS…introduces students in the Web and Software Developer, Graphic and Web Design, and Marketing programs to working within interdisciplinary teams. Through the building of all aspects of an application, each team will select and utilize design thinking processes and US/UI tools, prototype potential design solutions, ask for, give, and receive directive feedback, and effectively communicate and persuasively present ideas to an interdisciplinary audience. PREREQ 10104136 Retail Marketing/Ecommerce and 101043 Mktg req met or 10152109 Object-Oriented Program 1, 10152123 Mobile Device Dev 1 and 101527 IT Web and Soft Dev req met or 10201173 Web Dev Advanced and 102012 Graphic and Web req met

INTRO TO DATABASE DESIGN AND DEVELOPMENT...introduces the student to DBMS components, the design and development of databases, table relationships, SQL, database best practices and database integration with web applications.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. PREREQUISITE: Reading placement assessment equivalent or COREQUISITE: 10838105 Intro to Reading and Study Skills

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro to Reading and Study Skills or Reading placement assessment equivalent

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or Math plcmnt assmnt equiv and COREQUISITE: 10838105 Intro to Rdg & Study Skills or Rdg plcmnt assmnt equiv

MOBILE DEVICE DEVELOPMENT 1…introduces students to using common development tools, using GitHub, using modern JavaScript, using JavaScript array prototype methods, using typescript, using common UI elements for a mobile app, testing code, and analyzing the pros and cons of the available methods of mobile app development. PREREQUISITES: 10152187 Web Development 3 and 10152199 Web Development 2 and 10201118 Advancements in Web and Development.

MOBILE DEVICE DEVELOPMENT 2…introduces students to advanced mobile development topics including using components, creating web components, creating Angular components, creating JSX, creating React components, using application state in a React app, adding routing to a React app, implementing styling in a mobile app, and binding dynamic data to React components. PREREQUISITE: 10152123 Mobile Device Development 1

OBJECT-ORIENTED PROGRAMMING 1…introduces students to the Java programming language and object-oriented programming (OOP) concepts. Students will use the Java programming language and OOP to create desktop applications and server-side applications and services. PREREQUISITE: 10152187 Web Development 3

OBJECT-ORIENTED PROGRAMMING 2…introduces students to the Python programming language. Students will learn to develop applications using Python's language features and the library modules and packages. COREQUISITE: 10152109 Object-Oriented Programming 1

OBJECT-ORIENTED PROGRAMMING 3…introduces the learner to Microsoft's .NET platform, .NET frameworks, content-managed web sites and Web server architecture. Students will develop interactive and dynamic web applications using Microsoft ASP.NET, MVC architecture, and ADO.NET components to access data and data services through the creation of data-driven ASP.NET web pages and configuration of an ASP.NET application. Microsoft SQL Server is used. PREREQUISITE: 10152109 Object-Oriented Programming 1

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or Reading placement assessment equivalent

PORTFOLIO ASSESSMENT - WEB AND SOFTWARE DEVELOPER… assesses what the student has learned through the Web and Software Developer degree. The course will focus on the continued development of their electronic career portfolio, the freelance/contract software development market, the analysis of the achievement of their core abilities and program outcomes, and job search topics such as resumes, cover letters, and interview skills. PREREQUISITES: 10152123 Mobile Device Dev 1 and 10152109 Object-Oriented Programming 1 and COREQUISITE: 10152106 Integrated Web Concepts and CONDITION: 101527 Web and Software Developer admissions requirements met

PROGRAMMING INTRODUCTION...introduces the students to the programming process. Students will start with designing programs using flowcharts and progress to using programming code to create programs that use variables, data types, decisions, loops, arrays, and functions.

WEB DEVELOPMENT 1…introduces the students to web page design principles and proceeds to teach students how to create their own visually appealing designs for the web. Students will have hands-on experience using current versions of Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) to code and format accessible, valid, and optimized websites. Websites will be published live on the web using FTP. Students also explore recent trends in web design and development.

WEB DEVELOPMENT 2…introduces the student to using JavaScript to develop dynamic client-side applications. Students will learn the latest version of JavaScript, jQuery, and Typescript. PREREQUISITES: 10152196 Web Development 1 and 10152121 Programming 2 or 10152100 Programming Introduction

WEB DEVELOPMENT 3…introduces the learner to PHP, MySQL, PHP frameworks, content-managed Web sites, and Web server architecture. Topics covered include an introduction to the Apache Web server, server-side scripting, PHP control logic and functions, controlling state using sessions and cookies, querying database content and population to a Web page, MySQL relational database administration, and processing form information and populating it to a MySQL database. PREREQUISITES: 10152121 Programming 2 or 10152100Programming Introduction and 10152196 Web Development 1 and 10152124 Intro to Database Design and Development

WRITTEN COMMUNICATION…teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg or Writing placement assessment equivalent and COREQUISITE: 10838105 Intro to Rdg & Study Skills or Reading placement assessment equivalent