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Mobile Applications Development

2020

FANS01378 Mobile Applications Development CVS Application (funded)

Fanshawe College

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Ontario College Quality Assurance Service

Service de l'assurance de la qualité des
collèges de l'Ontario

Mobile Application Development

Fanshawe College | APS # FANS01378 | MTCU # 71916
Ontario College Graduate Certificate | Funding requested - full-time

Purpose

The proposed Mobile Application Development graduate certificate program is designed to meet the demand for mobile application development professionals. Students will develop the capabilities to assess the integration of mobile solutions in existing business functions and processes, identify key stakeholders as well as internal and external user groups to an organization, gather functional and non-functional requirements and specifications, perform multi-platform mobile application development, and implement user-interface design best practices. In their final semester, students will complete a co-operative work placement with an industry partner.

Admission

Ontario College Diploma, Ontario College Advanced Diploma, Degree in computer science/information technology or equivalent

Occupational Areas

Occupational opportunities align with the NOC 2174, and can include the following common job titles:

- Application programmer/developer
- Business application programmer
- Interactive media developer
- Multimedia developer
- Programmer analyst
- Software developer
- Software programmer
- Web programmer

According to the Careers Outlook Report published by the Ministry of Labour, Training and Skills Development, the outlook for NOC 2174 is "above average" for the period 2017 - 2021. The median income for this NOC is \$81,400. There are projected to be 10,000 - 15,000 new job openings in Ontario during the period of 2017 - 2021.

Laddering Opportunities

The proposed program will be highly relevant to graduates of any diploma, advanced diploma, graduate certificate or degree in information technology/computer science. Upon graduation,

students may pursue an additional graduate certificate or masters degree in IT-related topics.

Program VLOs

1. Implement native mobile applications for different mobile platforms.
2. Develop solution architectures to support client mobile applications by applying the principles and best practices of enterprise architecture and data management
3. Develop creative concepts for mobile applications that meet innovation, entrepreneurship and social enterprise objectives
4. Develop secure mobile applications by implementing the security principles, standards, and best practices of mobile application development
5. Develop usable, friendly, fast, and reliable mobile applications by applying the principles and best practices of User Interface design and experience (UI/UX).
6. Work independently and as a member of a multi-disciplinary team, to develop mobile application solutions for a business
7. Use industry standard testing methodologies to ensure software quality and improve software performance
8. Apply strategies for personal, career and professional development to enhance work performance and maintain currency with industry and technological changes.
9. Comply with relevant laws, industry standards, guidelines and best practices in the design and implementation of mobile applications
10. Communicate complex information technology solutions verbally, in writing and digitally for a variety of audiences and purposes.

Curriculum

- **INFO-XXX8 - Android Application Development 1** (Semester 1 - 60.00 hours)
This course provides students with an introduction to designing and developing native Android applications. Students will gain hands-on experience in developing and deploying mobile applications on Android devices. Coursework includes designing user interfaces, data persistence, location-based applications, telephony, debugging and testing.
- **INFO-XXX9 - iOS Application Development 1** (Semester 1 - 60.00 hours)
This course is an introduction to programming on Apple's iOS. Students will be introduced to Objective-C/Swift, XCode, Cocoa Touch frameworks, memory management, designing on different form factor, UI design, data persistence, graphics library, location-based applications, accelerometer, debugging and testing.
- **INFO-XX10 - Mobile Application UI/UX Design** (Semester 1 - 45.00 hours)
This course provides students with an introduction to UI/UX for mobile platforms. Students will examine special features of mobile UI design, application design steps, creating the visual appeal, designer/developer collaboration and communication, and application usability. Students will learn concepts, techniques, practices, and tools for design such as Material Design.
- **INFO-XX11 - Enterprise Technologies for Mobile Platforms** (Semester 1 - 45.00 hours)
This course provides students with the foundation of back-end enterprise technologies that are used to develop mobile applications in an enterprise environment. Students will investigate

modern back-end technologies. The course focuses on the architectural design approaches, architectural styles for the APIs, execution environments, and databases. Topics include Node.js, REST/GraphQL, MongoDB, Microservices, Docker, Swagger, and more. Students will learn how these technologies can be applied to mobile applications.

- **INFO-XX12 - Mobile Web Development** (Semester 1 - 45.00 hours)
In this course, students will learn to build progressive web apps that work well on mobile devices. ReactPWA will be used as the framework for building Progressive Web Apps. Leverage device features such as the camera and geolocation in your web apps. Utilize push notifications to increase user engagement with your web app.
- **INFO-XX13 - Cross Platform Mobile Development** (Semester 1 - 45.00 hours)
This course provides students with the foundations of developing cross-platform mobile applications. Students will gain hands-on experience with React Native and modern JavaScript, and build apps that look and feel native on both Android and iOS devices. Coursework emphasizes current JavaScript features, UI development with React Native, and accessing native capabilities of mobile platforms from JavaScript.
- **INFO-XX14 - Android Application Development 2** (Semester 2 - 45.00 hours)
In this course, students will be exposed to advanced concepts and selected topics on Android devices. Coursework emphasizes Android Services, multithreading and asynchronous processing, advanced UI design, handling advanced user input, job scheduling and content providers. Students will learn how to develop 2D and 3D graphics applications, and implement cloud-to-device messaging. Students will also explore Android multimedia APIs, and advanced topics on application publication and distribution.
- **INFO-XX15 - iOS Application Development 2** (Semester 2 - 45.00 hours)
This course is an advanced course in iPhone/iPad development that examines topics such as data-driven applications, advanced UI design and development, developing with XML on the iPhone/iPad, and integrating iPhone/iPad devices with web services.
- **INFO-XX16 - Advanced Topics in Mobile Development** (Semester 2 - 45.00 hours)
This course will cover advanced topics in mobile apps development. Topics will include google places, wearables, social media, and cloud technologies.
- **INFO-XX17 - The Future of Mobile Development** (Semester 2 - 45.00 hours)
This course will cover the emerging trends in mobile apps development. Topics will include: Internet of Things, augmented reality, data analytics, artificial intelligence, chat-bots and monetization. Course content may change as new trends/technologies emerge.
- **INFO-0018 - Capstone Project** (Semester 2 - 90.00 hours)
This project-based course is designed to allow students to demonstrate the various software development skills that they have been exposed to in previous course offerings. Students are wholly responsible for the entire project development lifecycle. Students will work in project teams using various tools to develop a single comprehensive solution. The solution that they develop can be used as part of a portfolio for securing employment upon graduation.
- **INFO-0019 - Security Concepts** (Semester 2 - 45.00 hours)
This course will delve into the current scripting and computer languages used by modern web clients and servers, with a focus on the programming methodologies used to prevent exploitation of web security vulnerabilities.
- **COOP-1020 - Co-op Work-term Preparation** (Semester 2 - 6.00 hours)
This workshop will provide an overview of the Co-operative Education consultants and students' roles and responsibilities as well as the Co-operative Education Policy. It will provide students with employment preparatory skills specifically related to co-operative education work assignments and will prepare students for their work term

- **COOP Work Term - COOP Work-term** (Semester 3 - 420.00 hours)
COOP Work-term

VLO Mapping

Code	1	2	3	4	5	6	7	8	9	10
INFO-XXX8	X			X	X		X		X	X
INFO-XXX9	X			X	X		X		X	X
INFO-XX10				X	X					X
INFO-XX11		X				X		X		
INFO-XX12			X		X		X	X	X	X
INFO-XX13		X	X	X	X		X		X	X
INFO-XX14	X	X	X	X	X		X		X	X
INFO-XX15	X	X	X	X	X		X		X	X
INFO-XX16					X					
INFO-XX17			X		X	X		X		
INFO-0018				X				X	X	X
INFO-0019	X	X	X	X	X	X	X	X	X	X
COOP-1020								X		
COOP Work Term	X		X		X	X	X	X	X	X

Certification/Accreditation

Certification type:

There is no recognition (None exist)

Attachments

None

Contact Information

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