RRC POLYTECH

Red River College Polytechnic campuses are located on the lands of Anishinaabe, Ininiwak, Anishininew, Dakota, and Dené, and the National Homeland of the Red River Métis.

Course Outline

Course Information

Course Code and Title: ADEV-3007 Mobile Application Development

Course Section: All Sections

Department/Program: Applied Computer Education

Total Hours: 80

Credit Hours: 5

COURSE DESCRIPTION:

This course introduces mobile software development. Students study native application development for the Android platform. The first half of the course builds the foundation with class demonstrations, tutorials, and assignments covering but not limited to user-interface creation, event-driven programming, data persistence, and web connectivity. In the second half of the course, students will share android development techniques with peers through cooperative learning and by creating smartphone apps of their own design.

RECOGNITION OF PRIOR LEARNING (RPL):

Recognition of Prior Learning (RPL) refers to a set of processes that allow individuals to document, be assessed and gain recognition for their prior learning. The focus is on the learning rather than where or how the learning occurred. Knowledge, skills and abilities gained from life experiences may be formal (transfer credit), informal or non-formal. RRC Polytech evaluates and grants credit for qualifying prior learning that is equivalent to the learning outcomes for courses in a program. For more information about RPL at RRC Polytech, refer to RPL or Policy A14 – RPL.

For general information and assistance with RPL, contact RRC Polytech's RPL Advisor at 204.632.3094 or rpladvisor@rrc.ca.

ACCESSIBILITY STATEMENT:

RRC Polytech is committed to providing persons with documented disabilities fair and equal access to educational programs, services and facilities. If you are a student with a disability* and require reasonable accommodations, you must connect with Student Accessibility Services (SAS) who will assist in developing and implementing your accommodation plan. Refer to the Student Accessibility Services webpage for information about SAS locations and how to book an appointment. Students with disabilities are also encouraged to have a private discussion with their instructor(s) to facilitate greater understanding of their learning needs.

*RRC Polytech's definition of "disability" is consistent with the Manitoba Human Rights Code. In the educational setting, "disability" refers to a permanent or temporary medical, physical, sensory, mental health (e.g., anxiety, depression), learning, or neurological (e.g., ADHD, Autism Spectrum Disorder) condition that interferes with a student's ability to fully participate in their studies and/or other associated activities.

ALTERNATE FORMATS:

This content is available in alternate formats. To request, please contact accessibility@rrc.ca.

ACADEMIC INTEGRITY:

Academic Integrity means acting with the values of honesty, trust, respect, responsibility, fairness and courage in learning, teaching and research to ensure that the credentials granted by RRC Polytech accurately represent demonstrated knowledge, skills and abilities. All members of the RRC Polytech community are expected to demonstrate these values through RRC Polytech learning activities, relationships and commitments. Clear expectations will be communicated to students to promote positive academic practices in compliance with RRC Polytech's Policy A17 – Academic Integrity. Contact academicintegrity@rrc.ca for additional information.

ACADEMIC REQUISITES:

(1) ADEV-2008 Programming 2
(2) DBMS-1002 Database Management Systems 1

COURSE DELIVERY METHODS:

This course is delivered in a blended classroom/online environment. It has scheduled, synchronous classes.

The following communication tools will be used in this course:

Microsoft Teams, LEARN, Email

Course format:

This course is delivered in a blended classroom/online environment and will make use of many online resources. Microsoft Teams is the primary collaboration tool used for scheduled online classes.

In the first half of the semester, students will learn android develop techniques by reading material, working through tutorials (Android Training – see link under resources section), and by watching videos and through class demonstrations.

In the second half of the semester, students will each develop their app idea as their final project. Co-operative learning app demonstrations will allow students to independently research, learn and share Android app development techniques with each other as they build their apps.

EFFECTIVE DATE:

August 26, 2024

Instructor Information

Instructor's name: Michael Bialowas

Email: mbialowas@rrc.ca

Office phone:

Office location: P414-160 Princess Street

Office hours: Please see calendar booking in LEARN.

Student Readiness

TECHNOLOGY AND EQUIPMENT READINESS:

Computer – with the specified minimum hardware and software requirements per the Business Information Technology program. In addition, you need a camera and a headset with a microphone as you will be participating in scheduled online classes, discussions, and one-on-one meetings with your instructor throughout this course.

An Android device is optional. (An Android emulator is included with the software used in the course; an actual Android device is not required but may be used.)

Software

Installation of (free) Android development software (Android Studio) on your laptop computer is required. Other supplementary software may also be required.

Microsoft Teams is required for online classes. Please download, install, and familiarize yourself with Microsoft Teams prior to the first class.

STUDENT COMMITMENTS AND CONTACT TIMES:

There will be up to five hours of scheduled daytime attendance per week; student attendance and engagement during in-class activities is expected. Schedules classes will include a mix of online and in-person classes.

You will have to commit time outside of regularly scheduled classes to complete coursework (completing assigned reading, watching videos, working on assignments, etc.)
You will have to keep up with course-related messages in Learn, your college email account, as well as in Microsoft Teams.

COURSE RESOURCES:

Course resources include the Android Developers website (https://developer.android.com), other online reading material, and videos.

TEXTBOOK(S):

There is no textbook for this course; the content of the Android Developers website is effectively the "textbook".

REFERENCES:

https://developer.android.com/?gclid=Cj0KCQjwu-KiBhCsARIsAPztUF2U65TnY_ha9TWH2_1bfjYmqDv9juICsJwaJfS4yVdet3YFm9KeUxwaAj_ZEALw_wcB&gclsrc=aw.ds

Android Development Training courses → https://developer.android.com/courses

Student Learning

LEARNING OUTCOMES AND ELEMENTS OF PERFORMANCE:

By the end of this course of study, you should be able to...

2) Install and configure a mobile software development environment.
3) Develop mobile applications.
   - Create mobile user interfaces.
   - Consume user interface and application lifecycle events.
   - Save relational/nested data locally and using a Mobile Backend as a Service (MBaaS)
   - Consume online data sources, access online APIs; parse XML and/or JSON data
4) Independently learn, explain, and demonstrate mobile development techniques

INSTRUCTIONAL SCHEDULE, ASSESSMENTS AND DATES:

NOTE: The following dates are subject to change based on the needs of the students at the instructor's prerogative. Students will be notified ahead of time of any changes.

Module/Unit/Week or Important Event	Topic and Learning Outcome(s)	Assessment and Evaluation	Weight	Due Date
First Day of Classes	Course Outline/Expectations Cooperative Learning Mobile App Project			
Android Studio Overview				
Kotlin Programming Language	Overview	Challenge 0 – OOP in Kotlin	2%	Sept 3

Imperative Programming in Android Studio	XML and layouts	Challenge 1 – Calculator	2%	Sept 10
Imperative Programming in Android Studio	Activities, Fragments, and Intents	Challenge 2 – Passing Data with Intents	2%	Sept 17
Jetpack Compose	Composable functions, Recomposition, State Hoisting, Navigation, Fetching Data	Challenge 3 – Calculator in Compose	2%	Sept 24
Data Persistence	Local,FireStore (MBaaS)	Challenge 4 – Rick and Morty API	2%	Oct 2
Firebase	Authentication as online service	Challenge 5 – Data Persistence	2%	Oct 8
	Project	Project Milestone 1 (Project Proposal/User Interface)	10%	Oct 13
	Project	Challenge 6 – User Authentication	2%	Oct 16
	Project	Cooperative Learning Demo 1	10%	Oct 20
	Project	Project Milestone 2	10%	Oct 27
	Project	Cooperative Learning Demo 2	10%	Nov 3
	Project	Cooperative Learning Demo 3	10%	Nov 17
		Project Milestone 3	15%	Nov 24
		Project Milestone 4 – Project Presentations	15%	Dec 1
First Day of Classes				Aug. 26

Add/Drop Period				Aug. 26-30
VW Deadline for 16-Week Programs				Nov. 21
Last Day of Classes for 16-Week Programs		Professionalism	6%	Dec. 13
Labour Day (No Classes)				Sept. 2
National Day for Truth and Reconciliation (No Classes)				Sept. 30
Fall Break (No Classes)				Oct. 11
Thanksgiving Day (No Classes)				Oct. 14
Remembrance Day (No Classes)				Nov. 11

Assessment Total: 100%

LETTER GRADE DISTRIBUTION:

Letter	GPA	Percentage
A+	4.5	90 to 100%
A	4.0	80 to 89%
B+	3.5	75 to 79%
B	3.0	70 to 74%
C+	2.5	65 to 69%
C	2.0	60 to 64%
D	1.0	50 to 59%
F	0.0	0 - 49%

A grade of D is required to pass this course.

Course Policies

GENERAL ACADEMIC POLICIES:

It is the student's responsibility to be familiar with and adhere to the RRC Polytech Academic Policies. These Policies can be found in the RRC Polytech calendar or online under Academic Matters at rrc.ca/legal/policies.

SUPPLEMENTARY POLICIES:

As a student at Red River College Polytechnic, you have certain rights and responsibilities. As such students should be familiar with the Policies involving student matters.

S1 - Student Code of Rights and Responsibilities

S2 - Student Discipline

S3 - Student Appeals

S5 - At-Risk Students

DATE REVISED:

May 24, 2024

RRC POLYTECH

Mental Health and Well-being at RRC Polytech

Having good personal health and well-being will support your success in this program.

WE ENCOURAGE YOU TO:

- Recognize that stress is an expected part of being a college student.
- Rethink how you view difficulty. Being challenged is actually a part of learning and reaching success.
- Reflect on your role in taking care of yourself throughout the term. Do your best to balance your schoolwork and life demands.
- Reach out to your instructor, program coordinator, or College supports at any time if something is affecting your academic performance. It's always best to reach out early and it's the responsible thing to do.

COLLEGE SUPPORTS READY AND WILLING TO ASSIST YOU:

- Academic Success Centre
- Campus Well-Being
- Equity, Diversity and Inclusion Supports
- Health Services
- Indigenous Student Supports
- International Student Supports
- Library Services
- Student Accessibility Services
- Student Counselling Services
- United Way 211 community resource

AUTHORIZATION:

This course is authorized for use by:

Sandra Turner	July 30, 2024
Chair, Application Development and Delivery	Date

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Approved by Senior Academic Committee March 2024

Please retain this course outline for future educational and/or employment use.