

I. COURSE DESCRIPTION:

This course explores software development for Android based mobile devices. Students will become familiar with the processes involved in creating, testing, debugging and deploying Android applications. Software development will occur using Android Studio IDE and the Java programming language. Applications will be written that explore the building of user interfaces, the persistence of data, work with sensors, send emails and interact generally with the device. The written applications will be deployed to mobile device emulators and to various hardware devices, logistics permitting.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Install and configure the development environment
Potential Elements of the Performance:
 - Download and install Android Studio
 - Discuss and identify a projects files and structure
 - Download and install the Android SDK
 - Identify and work with various views including design and text view
 - Become familiar with the various tools and capabilities of the IDE
2. Identify and incorporate application components
Potential Elements of the Performance:
 - Identify, discuss and apply Activities
 - Identify, discuss and apply Services
 - Identify, discuss and apply Content providers
 - Identify, discuss and apply Broadcast receivers
 - Activate components with Intents
 - Declare components via the applications manifest
 - Declare app requirements
 - Provide resources
3. Design and Develop User Interfaces
Potential Elements of the Performance:
 - Discuss interface elements and how they are built: Views and ViewGroups
 - Apply various interface layouts in the design of the UI
 - Apply various User Interface Components including Action

Bars, Dialogs and Notifications

4. Design and Write applications

Potential Elements of the Performance:

- Utilize mockup tools in the design of an application
- Write applications that Incorporate
 - input controls
 - handle events
 - implement menus
 - implement an action bar
 - application settings
 - dialogs
 - notifications
 - search
 - media playback
 - audio
 - camera
 - location and motion capabilities
 - various sensors
 - connect using http, Bluetooth and NFC
 - various data storage options including internal storage, sqllite databases and on local servers
- Debug applications
- Deploy application apks using various methods
- Identify, discuss and develop web applications with WebView as opposed to client side apps

5. Incorporate Best Practices

Potential Elements of the Performance:

- Design for and support multiple screens
- Support Tablets and Handsets

III. TOPICS:

1. Install and configure the development environment
2. Identify and incorporate application components
3. Design and Develop User Interfaces
4. Design and Write applications
5. Incorporate Best Practices

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Instructor supplied notes.

See

<http://welearn.saultcollege.ca>

<https://sites.google.com/site/saultcollegeit2/home/courses/csd309-f15>

V. EVALUATION PROCESS/GRADING SYSTEM:

| | |
|----------------------------------|------------|
| Theory Tests and Quizzes | 60% |
| <u>Laboratory Work and Tests</u> | <u>40%</u> |
| Total | 100% |

NOTE: *It is required to pass both the theory and the assignment part of this course. It is not possible to pass the course if a student has a failing average in the tests and quizzes but is passing the assignment portion, (or vice versa).*

The following semester grades will be assigned to students:

| Grade | <u>Definition</u> | <i>Grade Point Equivalent</i> |
|--------------|--|--------------------------------------|
| A+ | 90 – 100% | |
| A | 80 – 89% | 4.00 |
| B | 70 - 79% | 3.00 |
| C | 60 - 69% | 2.00 |
| D | 50 – 59% | 1.00 |
| F (Fail) | 49% and below | 0.00 |
| CR (Credit) | Credit for diploma requirements has been awarded. | |
| S | Satisfactory achievement in field /clinical placement or non-graded subject area. | |
| U | Unsatisfactory achievement in field/clinical placement or non-graded subject area. | |
| X | A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. | |
| NR | Grade not reported to Registrar's office. | |
| W | Student has withdrawn from the course without academic penalty. | |

If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services in an effort to offer even more assistance with options for success. Any student wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

VI. SPECIAL NOTES:Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

Absenteeism will affect a student's ability to succeed in this course.

Absences due to medical or other unavoidable circumstances should be discussed with the instructor. Students are required to be in class on time and attendance will be taken within the first five minutes of class. A missed class will result in a penalty in your marks unless you have discussed your absence with the professor as described above. The penalty depends on course hours and will be applied as follows:

| Course Hours | Deduction |
|---------------------|------------------|
| 5 hrs/week (75 hrs) | 1% / hr |
| 4 hrs/week (60 hrs) | 1.5% /hr |
| 3 hrs/week (45 hrs) | 2% /hr |
| 2 hrs/week (30 hrs) | 3%/hr |

Absentee reports will be discussed with each student during regular meetings with Faculty Advisors. Final penalties will be reviewed by the professor and will be at the discretion of the professor.

VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located in D2L and on the portal form part of this course outline.



COURSE OUTLINE ADDENDUM

1. Course Outline Amendments:

The faculty member reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

2. Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

3. Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Key Dates Calendar for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio. Student Services can provide information regarding the Prior Learning Assessment and Recognition policy or it can be viewed on the student portal.

Substitute course information is available in the Registrar's office.

4. Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information timetable, grades, records of achievement, unofficial transcript, and outstanding obligations. In addition announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more is available. Go to <https://my.saultcollege.ca>.

5. Communication:

The College considers **Desire2Learn (D2L)** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of this Learning Management System (LMS) communication tool.

6. Accessibility Services:
If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with the Accessibility Services office. Call Ext. 2703 or email studentsupport@saultcollege.ca so that support services can be arranged for you.
7. Audio and Video Recording Devices in the Classroom:
Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. Students with disabilities who require audio or visual recording devices in the classroom as an accommodation will receive approval from their counsellor once the Audio and Video Recording Devices in the Classroom Policy has been reviewed by the student. Recorded classroom instruction will be used only for individual academic use and will not be used for any other purpose. Recordings may only be used for individual study of materials presented during class and may not be published or distributed. Intentional misuse of audio and video recordings or intentional misrepresentation when requesting the use of a device for recording shall constitute a violation of this policy and laws protecting intellectual property.
8. Academic Dishonesty:
Students should refer to the definition of “academic dishonesty” in the *Student Code of Conduct*. Students who engage in academic dishonesty will be issued a sanction under the Student Code of Conduct which could lead to and include expulsion from the course/program. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, students must use a documentation format for referencing source material.
9. Tuition Default:
Students who have defaulted on the payment of tuition) as of the first week of November (fall semester courses), first week of March (winter semester courses) or first week of June (summer semester courses) will be removed from placement and clinical activities due to liability issues. This may result in loss of mandatory hours or incomplete course work. Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default. Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.