



**I. COURSE DESCRIPTION:** Textures and shaders give life to art in the game. Students will learn how to create efficient textures and shaders for game assets. Students will also learn both normal and parallax mapping techniques.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

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

1. Design and produce convincing 3D game textures and shaders  
Potential Elements of the Performance:
  - Develop an understanding of the capabilities of various platforms and create assets that maximize platform potential
  - Understand and create normal maps to be used on 3D assets
  - Become familiar with tools and functions found in a game engine for creating and editing textures and shaders
2. Design and create visually appropriate 2D game assets for textures and shaders  
Potential Elements of the Performance:
  - Using traditional and digital art skills to create convincing textures
  - Understand how to efficiently import, manage and package 2D assets inside a game engine.
3. Create textures and shaders for a game using a 3D game engine  
Potential Elements of the Performance:
  - Demonstrate the ability to use a 3d game engine to create and manage textures and shaders
  - Use a game engine to create appropriate shaders for 3D assets
  - Understand how to efficiently import, manage and package 3D assets inside a game engine.
4. Learn how to use and apply lights in a game engine to enhance game textures and shaders.  
Potential Elements of the Performance:
  - Demonstrate the ability to place and use all various light types in a game engine
  - Understand the core difference between light types and when it is best to use each
  - Effectively light a game asset in a game scene with both

textures and shaders applied.

### III. TOPICS:

1. Introduction to texture and shaders
2. What is a shader?
3. Components in a shader
4. Normal mapping and parallax mapping
5. Combining multiple textures into a shader
6. Creating multiple shaders for use in a game engine
7. Understanding how and when to use game engine lights to enhance textures and shaders

### IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

### V. EVALUATION PROCESS/GRADING SYSTEM:

#### **Assignments/Projects = 100% of final grade**

Assignments/projects will constitute 100% of the student's final grade in this course. A missing assignment is equivalent to course objectives not achieved which results in an "F" (fail) grade for the assignment/project.

The following semester grades will be assigned to students:

<b>Grade</b>	<b><u>Definition</u></b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
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.	

## 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.

### 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](mailto: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.