Technology & Visual Arts

S2023 BDAT 1001 – Information Encoding Standards

Section 3, Monday, 6:00 to 8:50 PM BA_N 202
Section 1, Tuesday, 6:00 to 8:50 PM BA_ K 322
Section 2, Wednesday, 6:00 to 8:50 PM BA_ K 322
Section 4, Thursday, 6:00 to 8:50 PM BA_ K 322

Course Description

Information is stored, transmitted and represented in many different forms and file formats. In this course students evaluate and compare common technologies and standards that are used to encode and transmit information. Students gain hands-on experience selectively migrating and synchronizing data between different systems that can be utilized by a variety of different applications.

Resources

Study resources will be supplied via Blackboard

Instructor

Name: Nital Shah
Email: Nital.Shah@GeorgianCollege.ca

Office Hours

Meetings can be made available by email request.

Expectations for Success:

Instructor responsibilities: Nital Shah
I will:

- Be prepared for class
- Provide real-life context and examples when possible
- Encourage and answer your questions
- Find out the answers to questions that I cannot answer
- Set out clear standards and expectations for your work
- Try to present the course material in an interesting and engaging manner
- This is OUR course – I am very open to feedback.

Student responsibilities:

- Attend class regularly
- Ask for help as often as you require it
- Follow along with the required reading in the text (it's a fun book to read!)
- Check the blackboard site at least once per week
- Understand how you learn (so you can learn more efficiently)
- Enjoy the process of learning
- Live without the use of your cell phone, Facebook, music players, game center, etc… for 3 hours a week
- Do not interrupt the flow of the class
- If you are requesting assistance via email, please be descriptive.

Evaluation:

In-Class Exercises	
Assignment 1	5%
Assignment 2	5%
Assignment 3	10%
Mid Term Exam	40%
Final Project	40%
	100%

Schedule of Activities:

1. Data Security / Protection of Privacy
2. Data Encoding
3. Data Aggregation
4. Data Transmission
5. Text, image, and audio file standards
6. CSV Files
7. JSON and XML

The sequence and content of this syllabus may change due to unanticipated opportunities or challenges, or to accommodate the learning styles of the students. Personal images, images of your projects and images of events may be taken throughout the semester. If you do not want your work/image used for College and Program promotional purposes, please fill out and submit a Disclaimer Form, available from Marilyn Haughton in Room D127, to your Program Coordinator.

WEEK	Weekly Lesson Plan	Assignment Expected	Assignments Due
1 Ma8 8 - 11	Introduction Course Overview Assessment Document : Mark Breakdown Weekly Lesson Plan with Assignments Due Date Introduction to Course Content Software Installations Introduction to C#		
2 May 15 - 18	Data Security & Data Protection Data Compliance General Data Protection Regulation (GDPR) Health Insurance Portability and Accountability Act (HIPAA) Payment Card Industry Data Security Standard (PCI) Data / Character Encoding Base 2, Base 16 and Base64 Encoding Character Encoding and Conversions with C#		
3 May 22 – 25 May 22 Holiday	Base 2 , Base 16 and Base64 Encoding C# : Working on Assignment -1 Converter C# Binary Converter C# Hexadecimal Converter C# Hexadecimal Converter (For Example) C# Base64 Converter Image Files and Base64 Encoding	Assignment 1 - Data Security, Encoding, Encryption and Privacy	

4 May 29 – June 1	Encryption Decryption / Cryptography C# : Working on Cryptography Data Transmission Network Protocols		Assignment 1
5 June 5 - 8	File Transfer Protocol (FTP) FTP using an FTP Client - Filezilla FTP Communications using the Command Prompt FTP Communications using C# Data Aggregation Lists and Aggregate Functions in C#	Assignment - 2 Data Aggregation and Transmission	
6 June 12 - 15	FTP Communications using C# Hypertext Transfer Protocol (HTTP) HTTP communications with C# Comma Separated Values (CSV) Files Introduction JSON, XML, CSV files		Assignment - 2
7 June 19 - 22	Mid Term Exam	Mid Term Exam	Mid Term Exam
8 June 26 - 30	No classes - study week.		
9 July 3 - 6	JSON – JavaScript Object Notation JSON Serialization & Deserialization Working With JSON Working with JSON C# XML Serialization & Deserialization Working With XML		
10 July 10 - 13	JavaScript and JSON Access Secure Sites Access Secure Site Using JWT Tokens Charting Tools , Google Charts and JSON Chart.js and JSON Post Final Project and discussions	Assignment - 3	
11 July 17 - 20	Access secure sites Introduction to JWT Build a JWT Token with C# Access Secure sites using JWT Tokens		Assignment - 3
12 July 24 - 27	Build an ASP.NET Core Web Application Set up a basic ASP.NET Core Web Application Implement JWT tokens and acquire data		
13 July 31 – Aug 3	File Types: Text, Image, and Audio File Standards Hidden Messages in Images Final Project – and Discussions		Final Project

14 Aug 7 - 10 Aug 7 Holiday	Final Project Presentation		
15 Aug 14 - 17	Final Project Presentation		

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Due to extenuating circumstances and to accommodate the need for this program to be offered remotely, there may be some modifications to the evaluation/assessment. This has been approved by the Dean of Technology & Visual Arts (TVA), as directed by the Vice President, Academic.