

COMP1045 – Internet of Things

Fall 2018

Syllabus
Computer Studies

Meeting Time & Locations:

Wednesdays: 4:00pm – 7:00pm, E104 (Section 1)
Thursdays: 4:00pm – 7:00pm, N102 (Section 3)
Thursdays: 7:00pm – 10:00pm, N102 (Section 2)

Course Description:

The Internet of Things is at the forefront of the next digital revolution and helps bridge the physical and digital worlds. This gives individuals, businesses, and other organizations the ability to collect an unprecedented amount of real-time data from the environment and increases data analytics to improve Business Intelligence. Attributes such as temperature, humidity, light, position and movement of objects can easily be captured and transmitted over the Internet to centralized databases. The Internet of Things also provides an opportunity to remotely monitor and control “Smart” objects allowing almost any device to become interactive and automated. This course teaches students how to connect, program, and build projects that leverage the Internet of Things technologies to remotely monitor objects and collect environmental data, as well as build web-enabled “Smart” appliances that can be remotely controlled over the Internet.

Resources:

Web based resources will be available via Blackboard
<http://gc.blackboard.com/>

Instructor:

Matthew Wilson

E-mail: matthew.wilson@georgiancollege.ca
Google: matthew.wilson@georgiancollege.ca

Office Hours:

By appointment only

Evaluation:

Assignments 70%
Project 30%

Syllabus

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WEEK	TOPIC	ASSIGNMENT	PROJECT
1	Internet of Things	E001 Blue Blink	
2	Arduino Introduction	E002 RGB Blink	
3	Analog Sensors	E003 Rotation Sensor E004 Light Sensor E005 Temperature Sensor	
4	Digital Input	E006 Push Button	Project Declaration
5	Analog Output	E007 RGB Fade	
6	Header Files	E008 Buzzer	
7	Libraries	E009 Humidity	
Reading Week			
8	Liquid Crystal Displays	E010 LCD	Project Hardware Diagram
9	Infrared	E011 IR	
10	Wireless Devices	E020 Thing Speak	
11	Servo Motors	E012 Servo	
12	Web Server	E021 Arduino Web Server	
13	Project Time		
14	Project Presentation		

This course uses webcasting software that will record the lecture. There is a chance that your image and/or voice may be captured as part of the lesson. If you have any concerns around the video and audio capture of the course please contact your instructor.

NOTE: 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 a disclaimer form available from your Program Coordinator.

The sequence and content of this syllabus may change due to unanticipated opportunities or challenges, or to accommodate the learning styles of the students.

NOTE: Students requiring assistance in emergency situations must inform their faculty during the first week of class.

Syllabus Addendum

Emergency Evacuation

- Evacuate buildings when a fire alarm is activated or an official announcement is given. Review [evacuation guidelines](#).
- *Students requiring assistance in emergency situations must inform their faculty during the first week of class.*
- Familiarize yourself with all fire exit doors of classrooms and buildings you may occupy.
- Do not re-enter a building until instructions are given by the Fire Department or college personnel.

Lockdown

- Lockdown is initiated when there is a potential or actual violent incident on campus that could result in a serious injury or threat to life.
- Students can download the new safe@georgian app (available mid-January) to stay updated on Campus Safety and Security information including lockdown.
- Familiarize yourself with the [College Lockdown procedure](#) (pdf).
- Lockdown tests occur each semester.

Resources

- [Get Out, Hide, Fight Lockdown Video](#)
- NEW Lockdown Model – Get Out, Hide, Fight: [Lockdown Tools and Tactics and FAQs](#).

Sexual Violence Procedure and Protocol

- All members of the Georgian College community have a right to work and study in an environment that is free from sexual violence.
- The College is committed to preventing sexual violence and creating a safe space for anyone in the College community who has experienced sexual violence.
- All reported incidents of sexual violence will be investigated to the best of the administration's ability and in a manner that ensures due process.
- Familiarize yourself with the [Sexual Violence Procedure and Protocol](#) (pdf).

Unscheduled Campus Closure

Reference: Unscheduled [Campus Closure Procedure #2-102](#)

Timing of Closures/Notification:

Closure	Decision	Communication / Notification*	Notes
College has made the decision to close a campus or location <u>in the morning</u>:	6:00 a.m.	By 6:30 a.m.	If re-opening for noon or evening classes is being considered, this will be mentioned in the message
College closes a campus(s) in the morning and <u>expects to re-open by 12:00 noon</u>	9:30 a.m.	By 10:00 a.m.	Only affects classes beginning at 12 noon or later
Closure expected to continue past 12:00 noon	9:30 a.m.	By 10:00 a.m.	
College intends to <u>re-open for evening classes</u> which commence at 5 p.m. or later	2:30 p.m.	By 3:00 p.m.	
College intends to <u>NOT re-open for evening classes</u>:	2:30 p.m.	By 3:00 p.m.	

*Notification will be made via:

- College web site
- Radio and television announcements through local and regional media
- College telephone system automated message
- Blackboard
- All student email to college accounts
- Georgian College Facebook site