

**CISC/CMPE320****Welcome!**

- “Fundamentals of Software Development”
- Course Web Site:  
  
<http://research.cs.queensu.ca/home/cisc320>
- Lecture notes, voice recordings, and other stuff will be, and is posted.

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**CISC/CMPE320, Cont.**

- A C++ course.
- Discussion of several software engineering topics will aid in the completion of a team project.
- ISO C++11 is emphasized and C++/CLI in Visual Studio is used for GUI construction.

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**CISC/CMPE320 Introduction**

- Me: Prof. Alan McLeod
  - [mcleod@cs.queensu.ca](mailto:mcleod@cs.queensu.ca)
  - GOO550 (office hours on course web site, soon)
  - Also, post questions in onQ forums.
- TAs:
  - Colin Bingham
  - Kanchan Nair
  - Katherine Beaulieu
  - Sudharshan Gopikrishnan
  - Wennie Wu
- No scheduled lab in this course.

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**Two Hour Tutorial Time**

- Mondays at 12:30pm to 2:30pm in Ellis Rooms 321 and 333.
- This class is too large for just one of the active learning classroom in Ellis.
- No tutorial this week (*this afternoon!*).

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**Three Things...**

- Manually refresh the main page of the course web site each time you view it.
- E-mail is the best way to contact me – don't call me. Use the [cs.queensu.ca](mailto:cs.queensu.ca) address. Don't email "mcleod@queensu.ca". Prof. David McLeod does not want to hear from you!
- When E-mailing do not use your hotmail or gmail or non-queensu address.

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**CISC/CMPE320 Introduction, Cont.**

- Grading scheme
  - 25% - five assignments, (due weeks 3, 5, 7, 9 and 11)
  - 35% - one project
  - 40% - one final exam
- Assignments - electronic submission through onQ.
- One assignment submission per person.
- Use ISO C++ and you can use any IDE for the GUI assignment (#3).
- Assn 5 not posted, yet.

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### Assignment Rules

- Assignments are graded out of 20 – marks and comments will be uploaded to onQ by your TA.
- Late submission:
  - You can submit up to five days after the deadline, but:
  - Your mark will be reduced by 2 marks per day late, unless you can prove extenuating circumstances, such as a serious illness or a Queen's activity.
  - Minimum of 2 marks removed.
  - If you cannot re-submit, let me know.

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### Assignment Rules, Cont.

- "Group Efforts":
  - I encourage you to discuss your difficulties with your peers, myself and your TA.
  - You may look at other people's code.
  - **You cannot copy other people's code!**

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### C++ Team Project

- Read more details on the course web site.
- You will be assigned to agile teams by me.
- I need to know who is in the course and you need to have filled out the onQ survey (*that onQ calls a quiz*) "Programming and Teamwork Background".
- Each team member will write code and adopt other roles as needed.
- Right now, you need to fill out the survey, read what is on the course web site and start thinking about possible projects.
- You should know what team you are in by week 3.

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### C++ Project, Cont.

- I will expect some leadership from those of you with C++ experience and teamwork experience.
- But, at some point you will have to JUMP IN!
  - You will have to start writing unfamiliar, advanced code with tools that are new to you.
  - You will have to learn things with only your team's support in a short time.
  - You will have to learn to pull your own weight on a team, and be responsible for your own work.
  - Your work will be examined and criticized by your peers.

**Sounds like a real job!**

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### Grading the Project

- Your team will present once in week 12.
- You will create two reports – Requirements Analysis Document (or "RAD") in week 5 and System Design Document (or "SDD") in week 8.
- Your team will maintain careful records. You will maintain your own page – a "diary" - listing what you have completed and when.
- Your team will be assigned a grade.
- Your grade will decrease if you did not contribute your fair share of the work.

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### Grading the Project, Cont.

- See the course web site's project page for a detailed breakdown of how marks are assigned to the project.
- A component of the grade will result from your TA grading your attendance and progress in the tutorial.
- You will also have a chance to grade the other teams' documents and presentations.

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## JIRA

- We will have our own server space for this course.
- This system will give each team a SCRUM planning tool (JIRA), a document creation and sharing tool (Confluence), a git repository (Bitbucket) and a chat tool (HipChat) – each of which you **must** use.
- **Don't** use facebook...

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## JIRA, Cont.

- I mean it:

# Don't use Facebook!

- (Not for your teamwork, anyways...)

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## Course Goals

- To give you solid proficiency coding in C++:
  - ISO standard C++11
  - C++/CLI in Visual Studio
- To give you some experience about what it is like to develop software as part of a team.
  - Learn some “software carpentry” and software engineering.
- *Good stuff for your resume!*

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## Learning C++

- If you have not coded in C++, your Java experience will help – any C experience might be more of a hindrance!
- C++ is not a “safe” language like Java – you can create problems in many different ways!
- Even if you are strong in C++ it does not hurt to be really solid on the fundamentals.
- I will emphasize the “Gotchas” whenever possible.

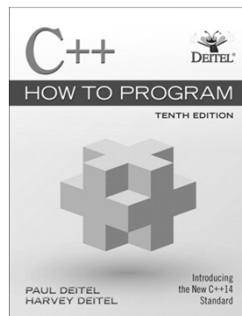
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## Resources

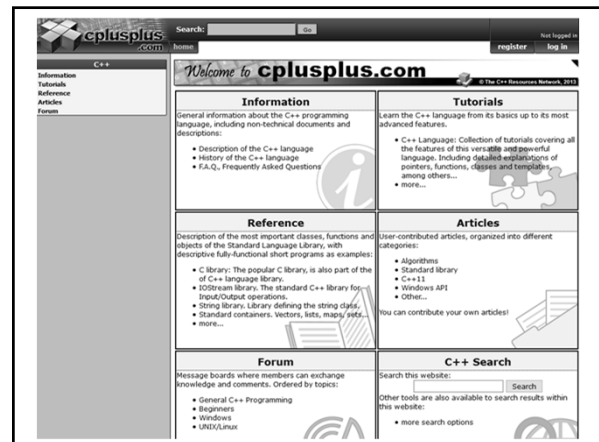
- Recommended Textbook:
- Many good web links, too – see the Resources web page.



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### Resources, Cont.

- One ISO C++ development environment, that is fine for console programs:



- Available from [www.eclipse.org](http://www.eclipse.org) with the CDT.
- See the Resources web page.

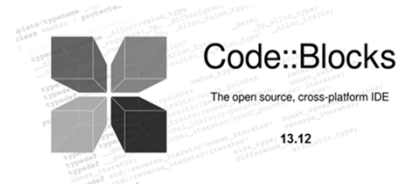
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### Resources, Cont.

- Another tool:



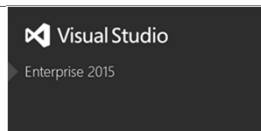
- From [codeblocks.org](http://codeblocks.org). Current version is 16.01
- Used for console or GUI. Multiplatform. Well designed.

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### Visual Studio .NET



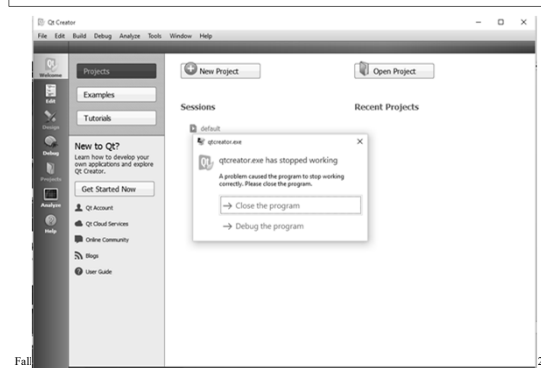
- You don't have to use this tool for C++/CLI if you don't want to. (see MonoDevelop, for example).
- You can get the Express Edition for free from Microsoft or get the whole *shebang* from Microsoft DreamSpark.
- Another way to develop GUIs.
- Not multi-platform!

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### Qt Creator ??? – From qt.io



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### Tool Chain

- Did you have to think about this with Java?
- There is a language standard for C++ - the latest developed by the ISO committee is C++14.
- The previous standard is mostly implemented by now: C++11.
- But – anyone can write their own C++ compiler and follow the standards or not!
- As a result, there are dozens of compilers.
- For this course, for console I/O, I recommend MinGW, which is a port of the GCC toolchain.

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### Things for You to Do

- Look over the course web site – read the project page carefully.
- Start thinking about a possible project.
- Check your onQ login – if the course does not show up for you, let me know.
- Fill out the programming/teamwork experience survey!

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### **More For You To Do**

- Decide on and install your C++ IDE.
- Focus on console apps first.
- Get it working!
  
- Once you have to get coding you won't have any more time to fiddle with your IDE.
  
- Your team may very well decide on a different IDE for the project!

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