COMP3811
Setup: Visual Studio

Contents

Quick links:
• Visual Studio: https://visualstudio.microsoft.com/vs/community/

If you intend to work with a (personal) Windows machine, you may want to install the Visual Studio IDE for your day-to-day work. The following details a first time installation.

Remember that your coursework submissions must build and run on the standard systems in the UG teaching lab (2.05) in Bragg. If you opt to use Visual Studio, make sure to test building and running your application occasionally on those systems as well, as to catch differences between the Visual Studio compiler and GCC 11.2.0 early.

1 Visual Studio

If you do not have Visual Studio installed, you can get the Visual Studio Community 2022 edition:

- https://visualstudio.microsoft.com/vs/community/.

The community edition is free for individual and academic use – see information on the linked page for details. The module's code has been tested with both VS 2019 and 2022, so either will work. If you already have Visual Studio installed, make sure that you have the required C++ tooling available and, if necessary, update to the latest version of the tools for your VS version.

1.1 Fresh Install

For a fresh install, first select *Desktop development with C++* in the category *Workloads* (see Figure 1). In the category *Individual components* (see Figure 2), further select the following:

- *Compilers, build tools, runtimes* → *Windows Universal CRT SDK*
- *SDKs, libraries, and frameworks* → *Windows Universal C Runtime*
- (optional) *Code tools* → *Git for Windows*

The total installation seems to require about 9 GB of disk space.

The Visual Studio install has occasionally given some trouble, where some key components were missing and it has been impossible to build standard C++ programs (despite selecting the C++ workload). The additional selections under *Individual Components* attempts to account for this. Nevertheless, I've been unable to get a fresh Windows image to install and test VS 2022 from scratch. With VS 2022, the additional components *might* no longer be necessary. You may try this - if you do, please let me know if it worked.

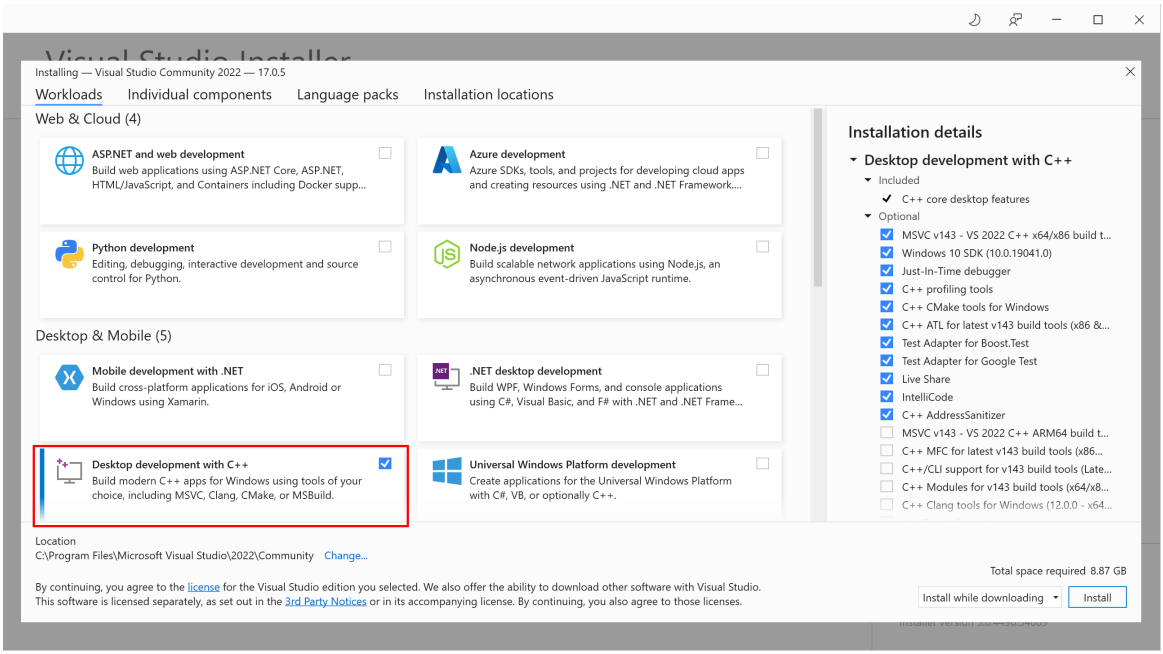

Figure 1: *Visual Studio Community 2022 installer, workload selection.*

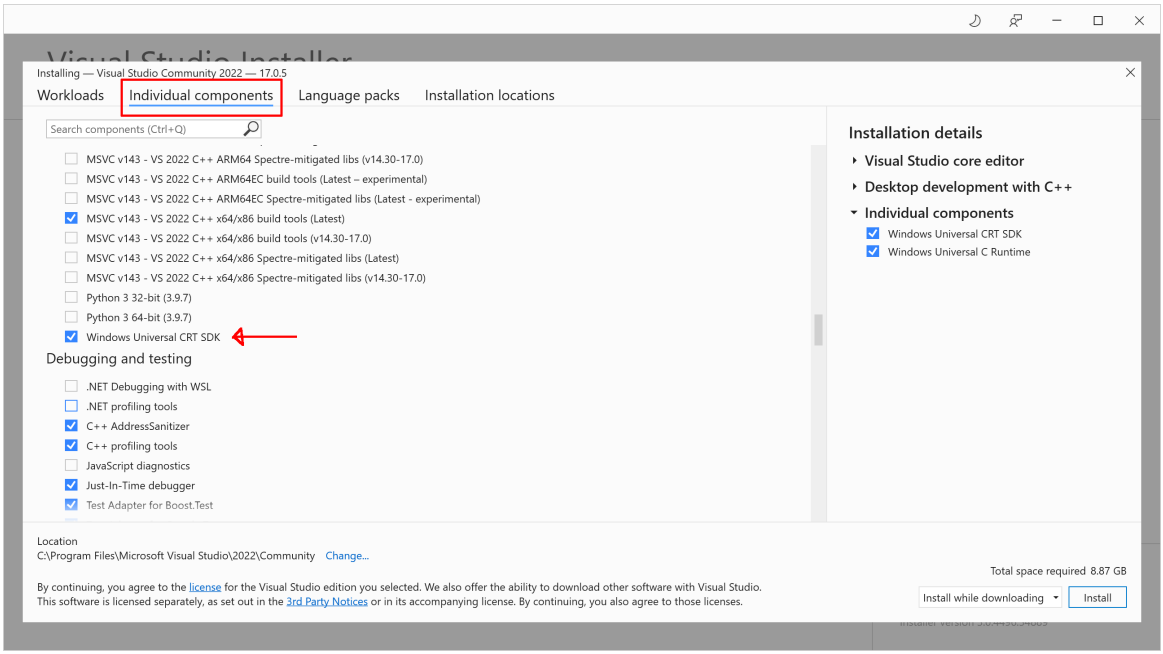

Figure 2: *Visual Studio Community 2022 installer, component selection. The* Windows Universal SDK *is shown as an example. Scroll through the list or use the* Search components *field to find the relevant components.*

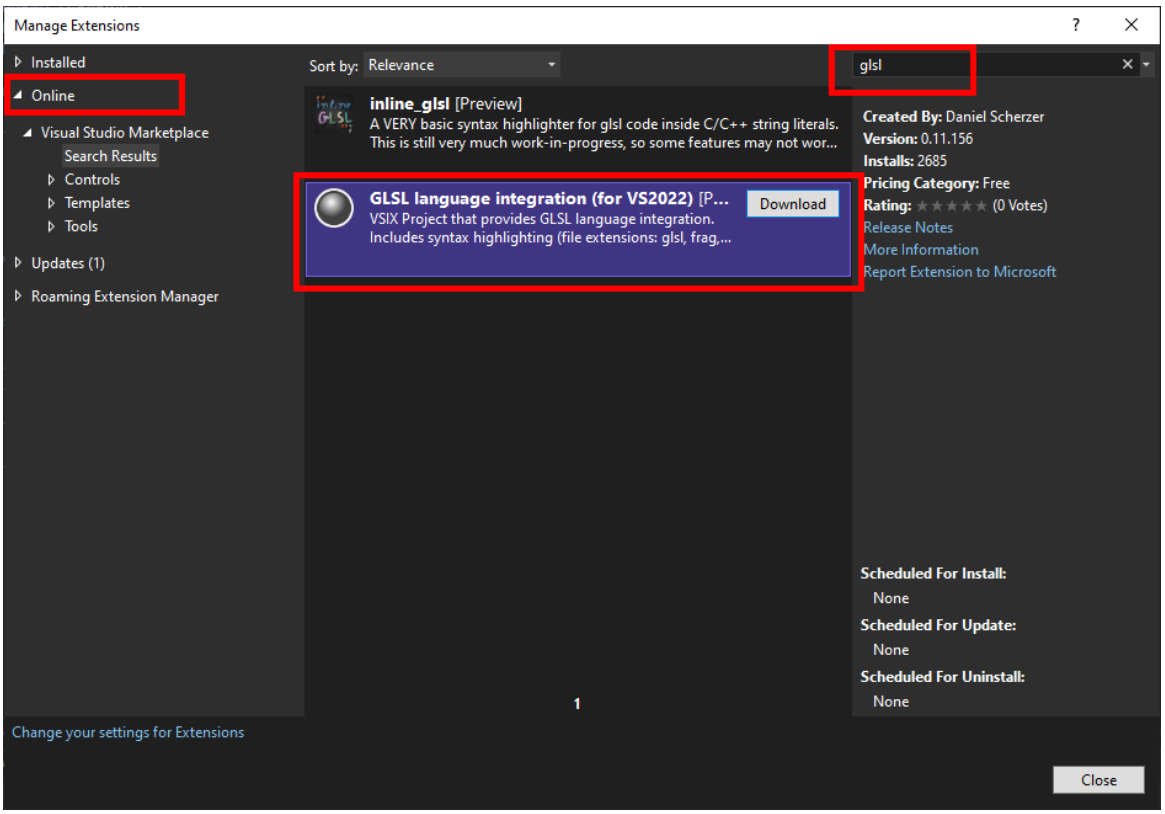

Figure 3: *Visual Studio Extensions Manager (I'm using the dark theme). Note that you will need to select* Online *on the left hand side before searching for the extension.*

1.2 Highlighting for GLSL

You will be working with GLSL code quite a bit, but Visual Studio does not natively support GLSL source code. It is recommended that you install an extension that provides syntax highlight for GLSL code. To do so, go to *Extensions* → *Manage Extensions* in the Visual Studio menu. This should bring up a popup (Figure 3) where you can manage and install extensions. Here, select *Online* in the left hand menu, and search for `glsl` in the top-right search field. You should find an extension called *GLSL language integration (for VS2022) [Preview]*. Press *Download* to install the extension. You will likely need to restart VS to complete the installation.