

# Windows GLSL Programming and VS2015 IDE Setup

- Update graphics drivers to make sure that your OpenGL version supports GLSL. Need GL 2.0 and above. Most likely as of Fall 2016 your discrete/on board graphics chip supports at least OGL 4.3 or 4.5.
- Install the latest version of the extension wrangler GLEW to make sure that Windows and Visual Studio do use the new extensions (including GLSL related extensions to GL). See instructions on [page 2](#).
- Install the latest version of the graphics library utility toolkit FreeGlut. See instructions on [page 3](#).

# GLEW and VS2015 IDE Setup

- Download and install latest glew from <http://glew.sourceforge.net/>
  - [Get the latest 32 and 64 bit pre-compiled binaries tgz/zip file](#)
- Glew installation: You need to put the header files (.h) and the static lib (.lib) and dynamic libs (.dll) at the right places. Please note that you must make sure that the 32 bit and the 64 bit libs and dlls are installed in the correct places.
  - **Header files**  
glew-X.Y.Z\include\GL\\*.h **must be copied in** C:\Program Files (x86)\Microsoft Visual Studio 14.0\VC\include\GL
  - **Static libraries** (64 bit Windows, let me know if yours is 32 bit)  
**32 bit** glew-X.Y.Z\lib\Release\Win32\\*.lib **must be copied in** C:\Program Files (x86)\Microsoft Visual Studio 14.0\VC\lib  
**64 bit** glew-X.Y.Z\lib\Release\x64\\*.lib **must be copied in** C:\Program Files (x86)\Microsoft Visual Studio 14.0\VC\lib\amd64
  - **Dynamic libraries** (64 bit Windows, let me know if yours is 32 bit)  
**32 bit dll files** glew-X.Y.Z\bin\Release\Win32\\*.dll **must be copied in** C:\WINDOWS\SysWOW64  
**64 bit lib files** glew-X.Y.Z\bin\Release\x64\\*.dll **must be copied in** C:\WINDOWS\System32

# FreeGLUT and VS2015 IDE Setup

- Download and install latest version of FreeGLUT from <http://freeglut.sourceforge.net/>.
  - [Martin Payne's freeglut 3.0.0 MSVC Package](#)
- You need to put the header files (.h) and the static lib (.lib) and dynamic libs (.dll) at the same locations used for GLEW.