

ECE3411 – Fall 2015

Lecture # 0

Setting up Eclipse (Windows), or GCC (Mac) Setting up Atmel Studio (Windows & Mac)

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UConn



Desktop C Programming

- In the first couple of labs, we'll be writing C programs for desktops/laptops.
- Tools that we'll be using:
 - For Windows based systems → Eclipse with GCC compiler.
 - For Mac systems → GCC compiler through command line.

Eclipse Requirements

1. Java Runtime Environment
2. GNU Compiler gcc 4.7.0+
3. Eclipse with CDT (C Development Tools)

Java Runtime Environment

- Go to: <http://www.java.com/en/download/manual.jsp>
- Download & install Java for your system (32/64 bit)

Available Operating Systems

- » [Windows](#)
- » [Mac](#)
- » [Linux](#)
- » [Solaris](#)

Help Resources

- » [Troubleshoot Java](#)

Java 7

- » [Where can I get Java 7?](#)

JDK

- » [Looking for the JDK?](#)

Java Downloads for All Operating Systems

Recommended Version 8 Update 101

Release date July 19, 2016

Select the file according to your operating system from the list below to get the latest Java for your computer.

> [Remove Older Versions](#)

> [What is Java?](#)

By downloading Java you acknowledge that you have read and accepted the terms of the [end user license agreement](#)

Windows		Which should I choose?	
	Windows Online filesize: 723 KB	Instructions	After installing Java, you may need to restart your browser in order to enable Java in your browser.
	Windows Offline filesize: 52.63 MB	Instructions	
	Windows Offline (64-bit) filesize: 59.17 MB	Instructions	

If you use 32-bit and 64-bit browsers interchangeably, you will need to install both 32-bit and 64-bit Java in order to have the Java plug-in for both browsers. » [FAQ about 64-bit Java for Windows](#)

GNU Compiler

- Go to: <http://www.equation.com/servlet/equation.cmd?fa=fortran>
- Download the latest version of gcc compiler for your system (32/64 bit)

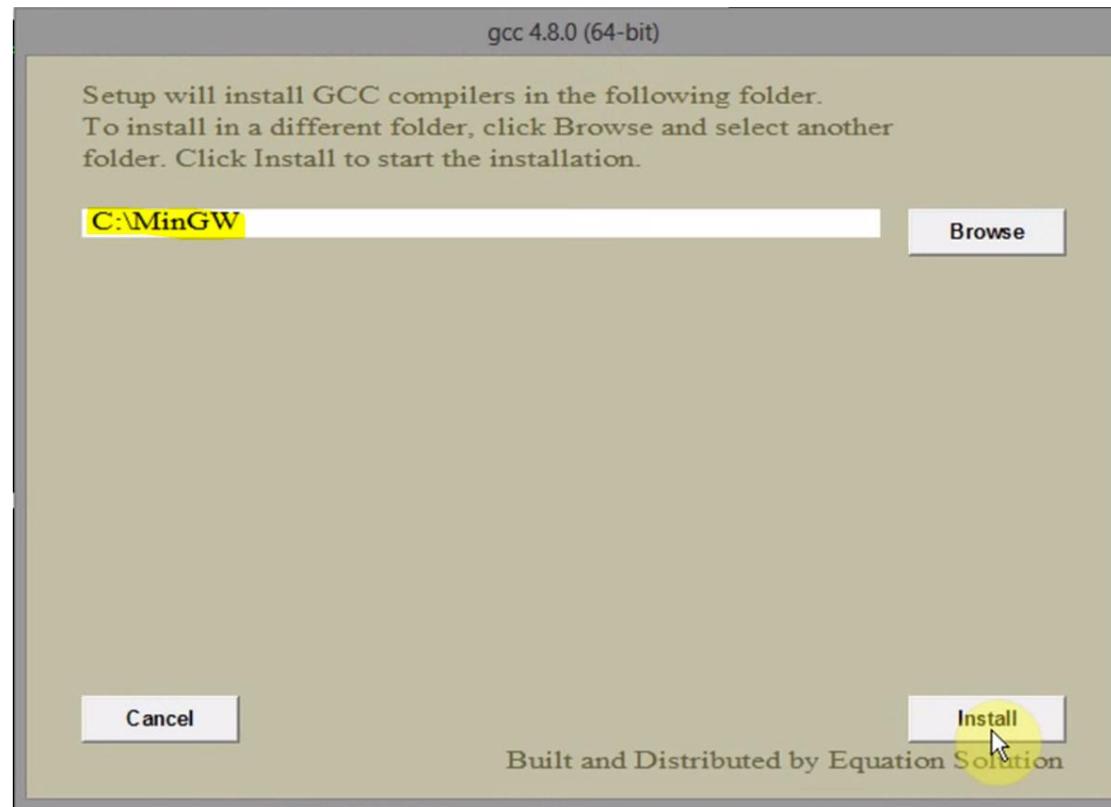
Release	Self-Extracting File		Note
	32-bit	64-bit	
4.6.4	gcc-4.6.4-32.exe	gcc-4.6.4-64.exe	Including <i>gdb</i> , <i>make</i> ; 64-bit with multi-lib; OpenMP v3.0; neuLoop ; manuals
4.7.3	gcc-4.7.3-32.exe	gcc-4.7.3-64.exe	Including <i>gdb</i> , <i>make</i> ; 64-bit with multi-lib; OpenMP v3.1; neuLoop ; manuals
4.8.2	gcc-4.8.2-32.exe	gcc-4.8.2-64.exe	Including <i>gdb</i> , <i>make</i> ; 64-bit with multi-lib; OpenMP v3.1; neuLoop ; manuals
4.9.2	gcc-4.9.2-32.exe	gcc-4.9.2-64.exe	Including <i>gdb</i> , <i>make</i> ; 64-bit with multi-lib; OpenMP v3.1; neuLoop ; laipe2 ; manuals

Navigation Tree

- Home
- Programming Tools
 - Fortran, C, C++
 - Debugger
 - Make
 - GNU Compliance
- Parallel Computing
- Blog
- In-Situ Evaluation
- Numerical Analysis
- Structural Mechanics
 - IFAS
 - mCable
- Write Us
 - Feedback
 - Info
 - Support
 - Webmaster
 - Privacy Policy

GNU Compiler

- Run the downloaded setup of gcc compiler
- Change the install path to C:\MinGW as shown and click “Install”
- Notice that the path is case sensitive, and it should exactly be as shown



Downloading Eclipse

- Go to: <http://www.eclipse.org/downloads/eclipse-packages/>
- Download **Eclipse IDE for C/C++ Developers** for your system (32/64 bit)



The screenshot shows the Eclipse IDE download page with three packages listed. The third package, "Eclipse IDE for C/C++ Developers", is highlighted in yellow. Each package includes a download icon and supported operating systems (Windows 32 Bit and Windows 64 Bit).

Package Name	Size	Downloads	OS Support
Eclipse IDE for Java Developers	155 MB	3,064,945 Times	Windows 32 Bit, Windows 64 Bit
Eclipse IDE for Java EE Developers	254 MB	1,598,347 Times	Windows 32 Bit, Windows 64 Bit
Eclipse IDE for C/C++ Developers	165 MB	444,005 Times	Windows 32 Bit, Windows 64 Bit

- Unzip/Extract the downloaded zipped file
- Cut & Paste the extracted folder named “eclipse” to
 - C:\Program Files\ (for 64 bit system) or
 - C:\Program Files (x86)\ (for 32 bit system)
- Create a shortcut to “eclipse.exe” on desktop

Eclipse Youtube Tutorial

- Full tutorial for setting up Eclipse can be found at:
<https://www.youtube.com/watch?v=KfKvDlrabUw>

GCC on Mac

- Turn on the terminal within Mac OS X (or Linux)
- On Mac, run the following command from your terminal to install GCC (if you don't have it already)
 - `xcode-select --install`
- Assume that we have a C source file “hello.c”. You can compile “hello.c” into an executable file called “hello” by the following command:
 - `gcc -o hello hello.c`
- If the program is compiled without errors, you can execute the program by typing:
 - `./hello <arguments if any>`

Setting up Atmel Studio on Windows

- Follow the Quick Start guide found at the link below:
[Getting started with ATmega168PB](#)
- Using this guide:
 - Install the Atmel Studio on your Windows Machine
 - Run a quick test program on your Xplained Mini kit.
(Notice that this document targets ATmega168PB Xplained Mini kit as an example, however similar steps are required for ATmega328P Xplained Mini kit.)
- Other resources include
 - [ATmega328P-Xplained-Mini UserGuide.pdf](#)
 - [ATmega328P Xplained Mini Schematic & Design Documentation](#)

Setting up Atmel Studio on Mac

- Mac users will need to install a Windows OS on their systems in order to install Atmel Studio
- The following slides provide detailed information on
 - Getting Microsoft Windows 7 and/or 8 that are available to students via uconn.onthehub.com
 - Installing Windows on Mac machines

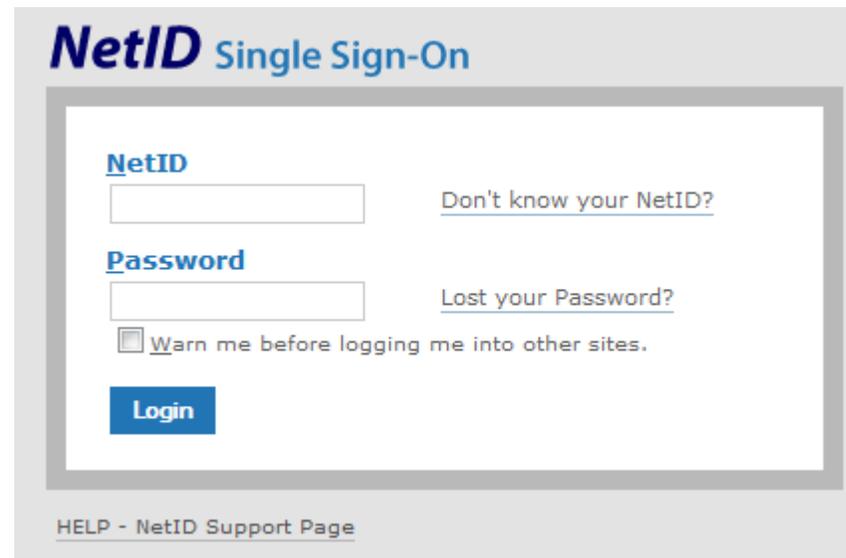
Getting Microsoft Windows

This article explains how to download an installer and receive a product key for Microsoft Windows 7 and 8 that are available to students via uconn.onthehub.com.

*****Warning*** If selecting and downloading Windows 8 for a Windows machine, the file given is for an upgrade only. If upgrading from Windows Vista or earlier, please select Windows 8 for Mac which is the full Windows 8 installer. If trying to Boot Camp a Mac, please select Windows 8 for Mac.**

Signing In to UConn's OnTheHub Website

- To sign into UConn's software download page: uconn.onthehub.com
- Use your NetID Credentials (NetID and NetID Password) to log in.



The image shows a screenshot of the NetID Single Sign-On login page. The page has a light gray background. At the top left, the text "NetID Single Sign-On" is displayed in a blue font. Below this, there are two input fields: "NetID" and "Password". To the right of the "NetID" field is a link that says "Don't know your NetID?". To the right of the "Password" field is a link that says "Lost your Password?". Below the "Password" field is a checkbox with the text "Warn me before logging me into other sites." At the bottom left of the form area is a blue button with the text "Login". At the bottom of the page, there is a link that says "HELP - NetID Support Page".

Getting Microsoft Windows

- Once logged in, you should see the screen displayed below.

The screenshot shows the UConn University of Connecticut website. At the top is the UCONN logo. Below it is a 'Product Search' bar with a magnifying glass icon. A navigation bar contains 'Students', 'Microsoft', 'Adobe', and 'DreamSpark'. A large 'Microsoft' logo is on the right. The main content area is titled 'Microsoft Corporation' and displays six software products with download icons:

- Microsoft Office 2013 (Professional Plus)
- Microsoft Office for Mac 2011 (Home & Business)
- Microsoft Office 2010 (Professional)
- Microsoft Windows 8.1
- Microsoft Windows 8 (Pro)
- Microsoft Windows 7

Getting Microsoft Windows

Downloading Installers and Receiving Product Keys

To download an installer:

- After logging in, select the software you wish to download and install. Click on it to proceed to the next page.
- At the next page, shown below, choose the version of the software (if applicable) and select **Add To Cart**, on the right. Make sure that the software chosen is compatible with the hardware you have installed.

Microsoft Windows 7 Ultimate



Windows 7 Ultimate is the most versatile and powerful edition of Windows 7. It combines remarkable ease-of-use with the entertainment features of Home Premium and the business capabilities of Professional, including the ability to run many Windows XP productivity programs in Windows XP Mode. For added security, you can encrypt your data with BitLocker and BitLocker To Go. And for extra flexibility, you can work in any of 35 languages. Get it all with Windows 7 Ultimate.

Choose a language:

Download

[Microsoft Windows 7 Ultimate Upgrade 32/64-bit \(English\) \(Student Option\)](#) **Free**

Available to: Students

Backup media: Available in most countries 



Students

Microsoft | Adobe | DreamSpark

Microsoft

[Microsoft Windows 7 Professional](#)
[Microsoft Windows 7 Ultimate](#)

Microsoft Windows 7 Professional



Simplify everyday tasks: find something instantly, compare documents side-by-side, or easily back-up your complete system over a network. Enjoy a PC that works the way you want it to; supports 64-bit technologies and offers XP Mode for your business productivity applications. Make new things possible: watch Internet TV, pause, rewind, and record TV or use Touch to interact with your PC in new ways.

Choose a language:

Download

[Microsoft Windows 7 Professional Upgrade 32/64-bit \(English\) \(Student Option\)](#) **Free**

Available to: Students

Backup media: Available in most countries 



Getting Microsoft Windows

Downloading Installers and Receiving Product Keys

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Microsoft Windows 8 Professional



Windows has been reimagined to focus on your life. The beautiful, fast, and fluid design is perfect for a range of hardware: from compact, touch-enabled tablets and lightweight laptops, to PCs and large, powerful all-in-ones with high-definition screens.

Choose a language: **English** ▾

Choose a platform: **Windows** ▾

Download

[Microsoft Windows 8 Professional Upgrade 32/64-bit \(Multilanguage\) \(Student Option\)](#) **Free**

Available to: Students

Backup media: Available in most countries 

Add To Cart

Microsoft Windows 8.1 Professional



With the new Windows, you get the best of work and play. Windows 8.1 Pro includes everything in Windows 8.1, plus enhanced features that help you manage your devices, access one PC from another, encrypt your data, and more.

Choose a language: **English** ▾

Choose a platform: **Windows** ▾

Download

[Microsoft Windows 8.1 Professional Upgrade 32/64-bit \(Multilanguage\) \(Student Option\)](#) **Free**

Available to: Students

Backup media: Available in most countries 

Compatible only with  Windows 7

*Cannot be upgraded from Windows XP or Vista

Add To Cart

Getting Microsoft Windows

Downloading Installers and Receiving Product Keys

To download an installer:

- Select language and platform it will be installed on.
- At the next screen, shown below, click **Check Out** on the bottom-right.

Your Cart

	Price
 Microsoft Windows 8.1 Professional Upgrade 32/64-bit (Multilanguage) (Student Option) - Download Date Added: 2014-10-16 12:35 PM	Free Remove
 Extended Access Guarantee (24 months) - Included 24 months of access to your download and/or key. This does not extend the duration of time-limited licenses (if applicable). Learn more	
Subtotal: \$0.00	

Recommended For You

 Backup disc - Microsoft Windows 8.1 Professional Show Details ▼	English ▼	\$13.95 Add
---	-----------	--------------------------------

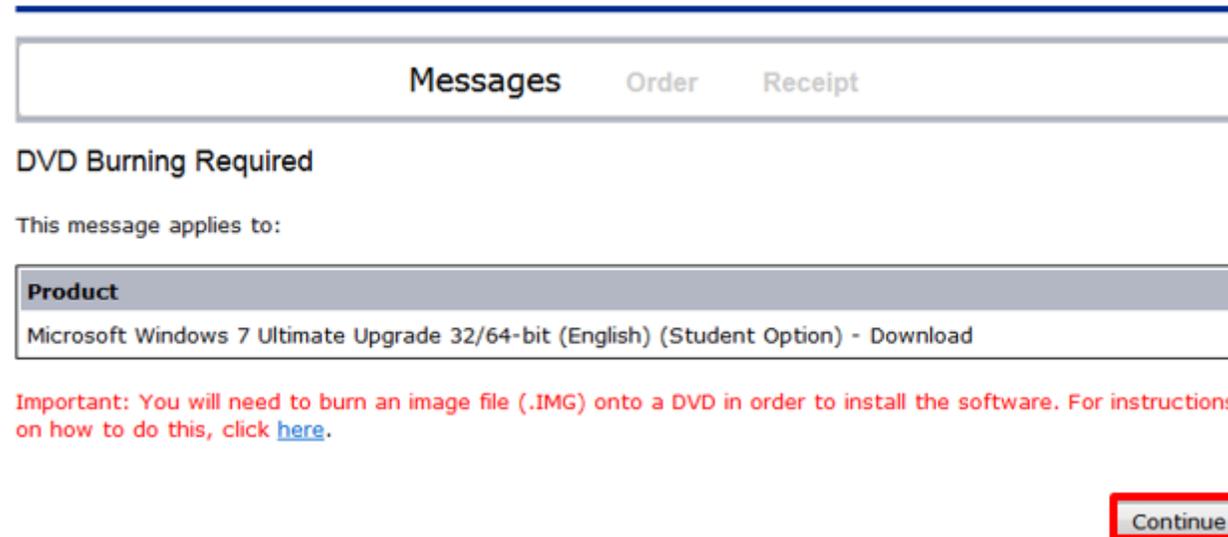
[Continue Shopping](#) [Check Out](#)

Getting Microsoft Windows

Downloading Installers and Receiving Product Keys

To download an installer:

- At the next screen, you will be prompted to acknowledge that an image of the installer must be burned to install the software. You can click the link shown there for instructions on how to do that. Click **Continue** to move to the next screen.
- **Note: this step is only required for Windows 7 installs, not Windows 8.**



The screenshot shows a message box with a title bar containing "Messages", "Order", and "Receipt". The main text reads "DVD Burning Required" and "This message applies to:". Below this is a table with one row: "Product" (header) and "Microsoft Windows 7 Ultimate Upgrade 32/64-bit (English) (Student Option) - Download". At the bottom, a red text block states: "Important: You will need to burn an image file (.IMG) onto a DVD in order to install the software. For instructions on how to do this, click [here](#)." A "Continue" button is located at the bottom right, highlighted with a red border.

Product
Microsoft Windows 7 Ultimate Upgrade 32/64-bit (English) (Student Option) - Download

Important: You will need to burn an image file (.IMG) onto a DVD in order to install the software. For instructions on how to do this, click [here](#).

Continue

Getting Microsoft Windows

Downloading Installers and Receiving Product Keys

To download an installer:

- At the next screen, you will be prompted to sign the MS Licensing agreement. Make sure this is understood before signing and then type your username (NetID) and signature (First and Last name i.e. John Smith), before hitting **I Accept**, at the bottom.

Messages Order Receipt

Microsoft Student Option User Acceptance Form

This message applies to:

Product	Agreement Number	Enrollment Number
Microsoft Windows 8.1 Professional Upgrade 32/64-bit (Multilanguage) (Student Option) - Download	3045088	3045088

1. **Grant of license.** Licensor hereby grants student the right to run one copy of the version number and language of the software identified below which student has installed on student's PC per the rights granted to student by the educational institution under their volume licensing agreement. Student's right to use the software shall be governed by and subject to the relevant section(s) of the most current Product Use Rights which student can view at <http://microsoft.com/licensing/> or <http://www.msemealca.com/currentpurs.htm>. For graduating students, the right to use the software is perpetual and shall be governed by and subject to the relevant section(s) of the most current Product Use Rights, which the student can view at <http://www.microsoft.com/licensing>.

2. **Description of rights and limitations.**

- **Limitations on reverse engineering, recompilation, and disassembly.** Student may not reverse engineer, decompile, or disassemble the software, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.
- **Separation of components.** The software is licensed as a single Product. Its component parts, if any, may not be separated for use on more than one computer.
- **Rental.** Student may not rent, lease, or lend the software.

Date: Thursday, October 16, 2014

Username*:
klo12001

Signature (type name)*:
Kathryn Olyha

Getting Microsoft Windows

Downloading Installers and Receiving Product Keys

To download an installer:

- At the next screen, you will be asked for order information. Fill out the form with last name, first name, and email address (you can use any but it is recommended that you use your first.last@uconn.edu address). Then click **Proceed With Order**.

Messages **Order** Receipt

Items All prices are in US Dollars

	Amount
 Microsoft Windows 8.1 Professional Upgrade 32/64-bit (Multilanguage) (Student Option) - Download	\$0.00
 Extended Access Guarantee (24 months) - Included 24 months of access to your download and/or key. This does not extend the duration of time-limited licenses (if applicable). Learn more	
Subtotal:	\$0.00
Taxes:	\$0.00
Total:	\$0.00

Contact Information Fields marked with an asterisk (*) are required

First Name* Last Name*

First Name: A valid value is required. Last Name: A valid value is required.

Email*

Email: A valid value is required.

I would like to receive special offers and promotions from Kivuto Solutions Inc. and its partners

Proceed With Order

Getting Microsoft Windows

Downloading Installers and Receiving Product Keys

- Congratulations! You have finally reached the download and product key screen!
- The product key is shown in the main box, as depicted below. Copy this 25 character symbol into a text or word document and save it for later.

Items All prices are in US Dollars [Start Download](#)

	Amount
 Microsoft Windows 8.1 Professional Upgrade 32/64-bit (Multilanguage) (Student Option) - Download	\$0.00
 Extended Access Guarantee (24 months) - Included 24 months of access to your download and/or key. This does not extend the duration of time-limited licenses (if applicable). Learn more Expires 2016-10-16	
Product Key: Retrieving...	
Instructions: Customer Support Information - Windows 8.1	
Messages: • Microsoft Student Option User Acceptance Form	
Agreement Number: 3045088 Enrollment Number: 3045088	
	Subtotal: \$0.00
	Taxes: \$0.00
	Total: \$0.00

- Once the product key is in the workflow ticket you can now start the Windows install process!

Getting Microsoft Windows

Issues with Activation or Product Keys

- If you are experiencing issues activating your software or are in need of additional product keys, contact Kivuto Support (the company that runs OnTheHub) at the corresponding number for your country.

Contact us by Telephone



North America
6:00am to 6:00pm (Eastern Time)

USA/Canada (Toll Free): 1-866-435-4722
1-888-396-1447
Local: 1-613-526-2881

Europe, Middle East and Africa (EMEA)
12:00pm to 12:00am CET (Central European Time)

France (Toll Free): 0800-916021
Germany (Toll Free): 0800-182-8612
Spain (Toll Free): 900-809754
United Kingdom (Toll Free): 0-800-098-8436
Other countries not listed: +44-845-8697566

Asia Pacific (APAC)
6:00pm to 6:00am (Singapore Time)

Australia (Toll Free): 1-800-426-231
Hong Kong (Toll Free): 800-968-781
Malaysia (Toll Free): 1-800-815-302

Installing Windows on Mac

Boot Camp Assistant helps you install Microsoft Windows on a Mac. After installing, you can restart your Mac and switch between OSX and Windows. This article describes, step-by-step, how to install Windows on an Apple computer using Boot Camp Assistant.

Prerequisites

- Student needs to have an Intel-based Mac.
- Student needs to have access and copy down the product key(s) necessary for the installation process
 - If the client wants Office, they will need a product key for Windows and a product key for Office.
- Data backup- HIGHLY recommended.
- 100GB free space recommended on large (500GB or larger) hard drives; 40GB minimum required on smaller drives.
- 2GB of RAM.
- Snow Leopard (OSX 10.6) or higher.

Installing Windows on Mac

Windows 7 64-bit

- Macbook Pro (13-inch, Mid 2009) and later
- Macbook Pro (15-inch, Early 2008) and later
- Macbook Pro (17-inch, Early 2008) and later
- Mac Pro (Early 2008) and later
- iMac (21.5-inch, Late 2009)
- iMac (27-inch, Late 2009)
- iMac (27-inch, Quad Core, Late 2009)
- MacBook (13-inch, Late 2009) and later
- iMac (21.5-inch, Mid 2010)
- iMac (27-inch, Mid 2010)
- Mac mini (Mid 2010)

Installing Windows on Mac

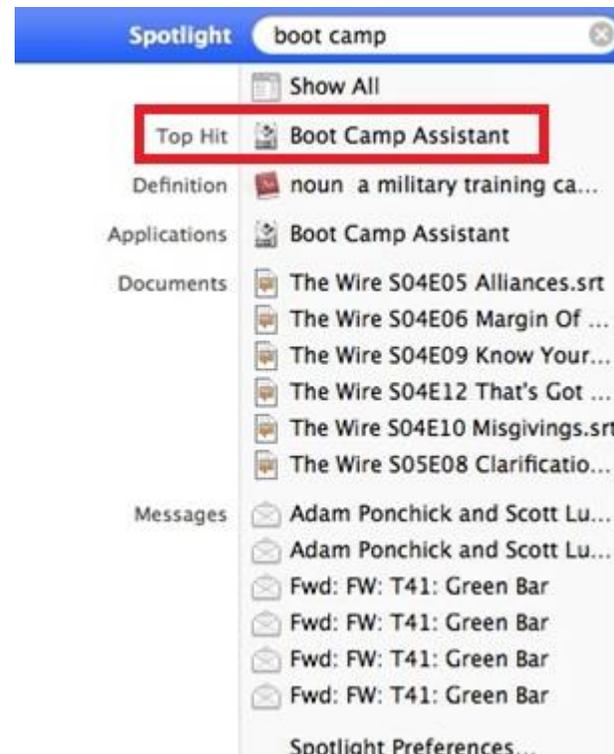
Windows 8

- Macbook Air (Mid 2011 or newer)
- Macbook Pro (15-inch and 17-inch, Mid 2010)
- Macbook Pro (Early 2011 or newer)
- Mac Pro (Early 2009 or newer)
- Mac Mini (Mid 2011 or newer)
- iMac (27-inch, Mid 2010)
- iMac (21.5-inch, Mid 2011 or newer)

Installing Windows on Mac

Running Boot Camp Assistant

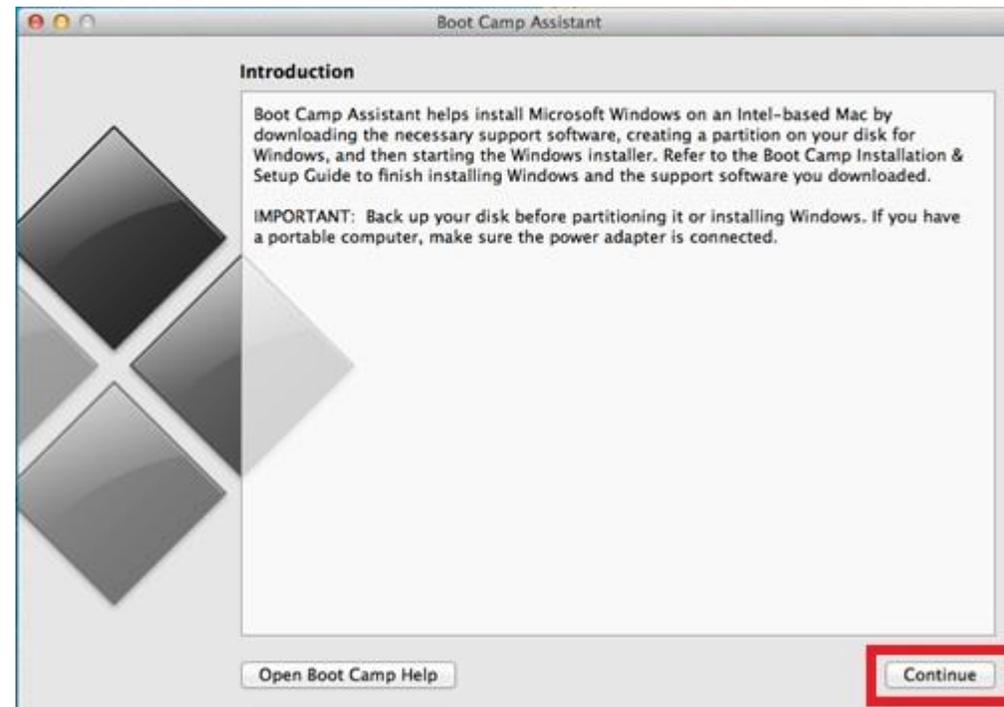
- Go to the **Spotlight** and type **Boot Camp Assistant** and select it from Top Hit.



Installing Windows on Mac

Running Boot Camp Assistant

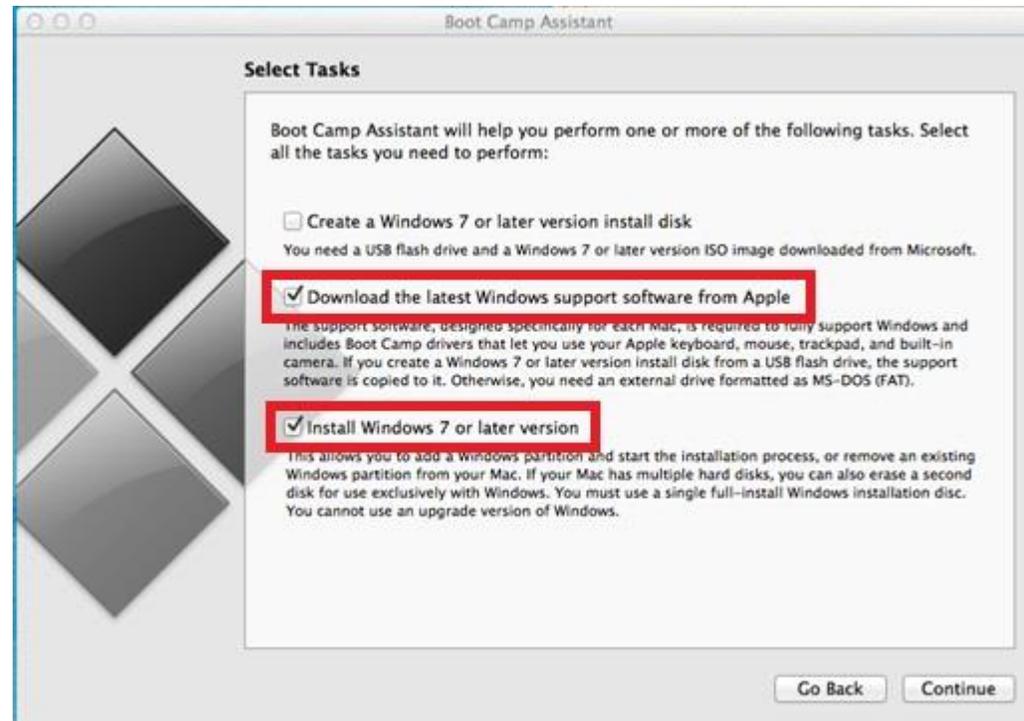
- At the Introduction screen, click **continue**.



Installing Windows on Mac

Running Boot Camp Assistant

- On the Select Tasks screen, check "Download the latest Windows Support software from Apple" and "Install or remove Windows 7 or later version." Click **continue**.



Installing Windows on Mac

Running Boot Camp Assistant

- Download the support software to an external drive. Click **continue** to save the drivers to a USB



Installing Windows on Mac

Running Boot Camp Assistant

- Eject the USB you saved the drivers to and insert the appropriate version of Windows installation media.
- Set the Windows partition size to what the client requested or at least the minimum specified above for the hard drive size. Click **install** to partition the hard drive.
- After the Mac finishes partitioning the hard drive, it will automatically boot into the Windows installation disc or USB.

