



HYBRID TECHNOLOGY TRAINING
PRINCE GEORGES COMMUNITY COLLEGE

MICROSOFT: ADMINISTERING WINDOWS SERVER 2012 R2

STUDENT HANDBOOK



WELCOME!

Welcome to the Microsoft Administering Windows Server 2012 R2 Exam 70-411.

Prince Georges Community College Mission Statement

Prince George's Community College transforms students' lives. The college exists to educate, train, and serve our diverse populations through accessible, affordable, and rigorous learning experiences.

Information Technology Entry Program Mission Statement

[ADD ITEP Mission Statement here].

Information Technology Entry Program Objective

The Information Technology Entry Program (ITEP) is a comprehensive multi-phase program of Prince George's Community College that develops the skills needed to enter the demanding world of IT Support. Upon successful completion of the program, the student will be able to demonstrate practical knowledge and application of their skills, exceeding that of an Entry Level Desktop and Network IT Support Technician or Tier I Help Desk Support.

Through our comprehensive approach, the material is combined into an interconnected program, allowing the instructor and student adequate time on a specific subject such as: TCP/IP, DNS, DHCP, Wireless, IPv6 or troubleshooting.

Each student is treated and trained as an information technology support professional from day one. The student will design, build, administer and maintain a live network during the program. We can do this through the delivery method of the combined and interconnected nature of this dynamic multi-phase program.

Upon completion of the Information Technology Entry Program, and with adequate preparation in addition to the contact hours, the student should have developed the skills needed to sit for the following exams: CompTIA A+, CompTIA NET+, CompTIA SECURITY+, and Microsoft MCSA.

Microsoft: Administering Windows Server 2012 R2 Objective



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This course is designed as a Hybrid Virtualization Training course. It blends in class instruction with a virtual lab environment. Students will learn to administer Windows 2012 server. Topics include: Patch Management, Distributed File System, Disk Encryption, DNS Records and Zones, VPN's and Routing, Direct Access, Network Access Protection, Configuring Domain Controllers and Maintaining Active Directory. This course maps to a Microsoft Certification exam: 70-411.

HOW TO USE THIS STUDENT GUIDE

The student guide provides students with an overview of the course, the tools used and how the course maps to the Microsoft exam objectives.

The Student Guide is intended to be used in conjunction with the Course Syllabus and Course Schedule documents. All electronic copies of all three documents are posted in the “Syllabus & Schedule” area of the Blackboard course site for this course.

Throughout this course, you should have easy access to the Student Guide, Course Syllabus and Course Schedule documents.

The Table of Contents below provides links to all of the pertinent information found in this document.

Let's get started!



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SECTION 1: COURSE INFORMATION

Course Description

This course is designed as a Hybrid Virtualization Training course. It blends in class instruction with a virtual lab environment. Students will learn to administer Windows 2012 server. Topics include: Patch Management, Distributed File System, Disk Encryption, DNS Records and Zones, VPN's and Routing, Direct Access, Network Access Protection, Configuring Domain Controllers and Maintaining Active Directory.

Required Textbook

Book:

70-411 Administering Windows Server 2012 R2

ISBN: 978-1-118-88283-2

Publisher: Wiley & Sons INC.

Author: Pat Regan

Other Required Course Materials

Online Labs:

70-411 R2 Microsoft Online Academic Curriculum (MOAC)

Note: The book and the MOAC Online Reg Card Set will be bundled together. ISBN: 978-1-118-96636-5

Required Technology Accounts

To be successful in this course, students must have access to the following technology accounts:

- Owl Mail Email Account
- Blackboard Account
- Testout Account
- 70-411 R2 Microsoft Online Academic Curriculum (MOAC)

Details on how to setup and access the technology accounts for this course can be found in the [Course Technology Setup](#) section of this document.

Prerequisites

The prerequisites for this course are: IT Foundations, A+, Network+ and Security+.



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Course Meeting Schedule

This course will meet on the PGCC Largo campus Monday through Friday. The class meeting times and room location for this course can be found on the Course Syllabus document found in the Syllabus & Schedule area of the Blackboard course site.

Course Length

This course meets for 6 days.

The course consists of:

Lecture:	40%
Laboratory:	40%
E-Module:	20%

Course Contact Hours

The total number of contact hours for this course is: 51.75 hours

Course Structure

This course is designed to provide a hybrid experience, including a blend of face-to-face and online activities.

Face-to-face sessions will be held on the Largo campus location TBD. Face-to-face activities will consist of Lecture and online labs.

Online sessions will be a blend of self-paced and group activities using Blackboard and MOAC Labs Online. The instructor may add supplemental online activities as needed. (Example testout)

Technology Requirements

Computer/internet access and mastery of basic computer skills are considered to be the student's responsibility. To be successful in this course, students must have access to:

- Blackboard
- MOAC Online Labs (<https://moac.microsoftlabsonline.com>)
 - Note: Students must use Internet Explorer for MOAC
 - Students must be able to install ActiveX Controls



SECTION 2: COURSE OBJECTIVES

The below outcomes are the Microsoft exam objectives.

Source: <https://www.microsoft.com/learning/en-us/exam-70-411.aspx>

Students, upon completion of this course, should be able to show proficiency and /or knowledge in the following areas:

1. Deploy, manage and maintain servers
 - a. Deploy and manage server images
 - b. Implement patch management
 - c. Monitor servers
2. Configure File and Print Services
 - a. Configure Distributed File System
 - b. Configure File Server Resource Manager (FSRM)
 - c. Configure file and disk encryption
 - d. Configure advanced audit policies
3. Configure network services and access
 - a. Configure DNS zones
 - b. Configure DNS records
 - c. Configure virtual private network (VPN) and routing
 - d. Configure DirectAccess
4. Configure a Network Policy Server (NPS) infrastructure
 - a. Configure a Network Policy Server
 - b. Configure NPS policies
 - c. Configure Network Access Protection (NAP)
5. Configure and manage Active Directory
 - a. Configure service authentication
 - b. Configure domain controllers
 - c. Maintain Active Directory
 - d. Configure account policies
6. Configure and manage Group Policy
 - a. Configure Group Policy processing
 - b. Configure Group Policy settings
 - c. Manage Group Policy objects
 - d. Configure Group Policy preferences



SECTION 3: COURSE SCHEDULE

Tentative Course Schedule:

MCSA Part II: 70-411	Tentative Course Schedule:	Last Updated:
Date:	Topic:	Reading Assignment:
Day 1	Deploying and Managing Server Images	Chapters 1-4
	Implementing Patch Management	
	Monitoring Servers	
	Configuring Distributed File System (DFS)	
Day 2	Configuring File Server Resource Manager (FSRM)	Chapters 5-9
	Configuring Files Services and Encryption	
	Configuring Advanced Audit Policies	
	Configuring DNS Zones	
	Configuring DNS Records	
Day 3	Configuring VPN and Routing	Chapter 10-14
	Configuring DirectAccess	
	Configuring a Network Policy Server	
	Configuring NPS Policies	
	Configuring Network Access Protection (NAP)	
Day 4	Configuring Service Authentication	Chapter 15-18
	Configuring Domain Controllers	
	Maintaining Active Directory	
	Configuring Account Policies	
Day 5	Configuring Group Policy Processing	Chapters 19-22
	Configuring Group Policy Settings	
	Managing Group Policy Objects	
	Configuring Group Policy Preferences	

Labs:

Date:	Lab Name:	Chapter:
Day 1	MOAC70411R2-Lab1- Deploying and Managing Server Images	Chapter 1



	MOAC70411R2-Lab2- Implementing Patch Management	Chapter 2
	MOAC70411R2-Lab3- Monitoring Servers	Chapter 3
	MOAC70411R2-Lab4- Configuring Distributed File System (DFS)	Chapter 4
Day 2	MOAC70411R2-Lab5- Configuring File Server Resource Manager (FSRM)	Chapter 5
	MOAC70411R2-Lab6- Configuring Files Services and Encryption	Chapter 6
	MOAC70411R2-Lab7- Configuring Advanced Audit Policies	Chapter 7
	MOAC70411R2-Lab8- Configuring DNS Zones	Chapter 8
	MOAC70411R2-Lab9- Configuring DNS Records	Chapter 9
Day 3	MOAC70411R2-Lab10- Configuring VPN and Routing	Chapter 10
	MOAC70411R2-Lab11- Configuring DirectAccess	Chapter 11
	MOAC70411R2-Lab11- Configuring a Network Policy Server	Chapter 12
	MOAC70411R2-Lab13- Configuring NPS Policies	Chapter 13
	MOAC70411R2-Lab14- Configuring Network Access Protection (NAP)	Chapter 14
Day 4	MOAC70411R2-Lab15- Configuring Service Authentication	Chapter 15
	MOAC70411R2-Lab16- Configuring Domain Controllers	Chapter 16
	MOAC70411R2-Lab17- Maintaining Active Directory	Chapter 17
	MOAC70411R2-Lab18- Configuring Account Policies	Chapter 18
Day 5	MOAC70411R2-Lab19- Configuring Group Policy Processing	Chapter 19
	MOAC70411R2-Lab20- Configuring Group Policy Settings	Chapter 20
	MOAC70411R2-Lab21- Managing Group Policy Objects	Chapter 21
	MOAC70411R2-Lab22- Configuring Group Policy Preferences	Chapter 22

The detailed Course Schedule can be found in the Syllabus & Schedule area of Blackboard.

Instructions to access Course Schedule in Blackboard:



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1. Go to Blackboard course site for this course (<http://pgcconline.blackboard.com>)
2. Click on “Syllabus & Schedule” navigation button
3. Click on Course Schedule document link



SECTION 4: COURSE MODULES

Module #	Module Name	Course Objective(s) Covered	# Hours
1	Deploying and Managing Server Images	Deploying and Managing Server Images	Day 1: 2hours
2	Implementing Patch Management	Implementing Patch Management	Day 1: 2 hours
3	Monitoring Servers	Monitoring Servers	Day 1: 2 hours
4	Configuring Distributed File System (DFS)	Configuring Distributed File System (DFS)	Day 1: 2 hours
5	Configuring File Server Resource Manager (FSRM)	Configuring File Server Resource Manager (FSRM)	Day 2: 2 hours
6	Configuring Files Services and Encryption	Configuring Files Services and Encryption	Day 2: 2 hours
7	Configuring Advanced Audit Policies	Configuring Advanced Audit Policies	Day 2: 2 hours
8	Configuring DNS Zones	Configuring DNS Zones	Day 2: 1 hour
9	Configuring DNS Records	Configuring DNS Records	Day 2: 1 hour
10	Configuring VPN and Routing	Configuring VPN and Routing	Day 3: 2 hours
11	Configuring DirectAccess	Configuring DirectAccess	Day 3: 2 hours
12	Configuring a Network Policy Server	Configuring a Network Policy Server	Day 3: 2 hours
13	Configuring NPS Policies	Configuring NPS Policies	Day 3: 1 hour



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14	Configuring Network Access Protection (NAP)	Configuring Network Access Protection (NAP)	Day 3: 1 hour
15	Configuring Service Authentication	Configuring Service Authentication	Day 4: 2 hours
16	Configuring Domain Controllers	Configuring Domain Controllers	Day 4: 2 hours
17	Maintaining Active Directory	Maintaining Active Directory	Day 4: 2 hours
18	Configuring Account Policies	Configuring Account Policies	Day 4: 2 hours
19	Configuring Group Policy Processing	Configuring Group Policy Processing	Day 5: 2 hours
20	Configuring Group Policy Settings	Configuring Group Policy Settings	Day 5: 2 hours
21	Managing Group Policy Objects	Managing Group Policy Objects	Day 5: 2 hours
22	Configuring Group Policy Preferences	Configuring Group Policy Preferences	Day 5: 2 hours



SECTION 5: ASSIGNMENT DESCRIPTIONS AND RUBRICS

Course Assignment Descriptions

Grading Allocation:

Lab Assignments	40%
E-Modules	10%
Class Participation	30%
Practice Exam (70-411)	20%

Grading Scale:

Grade:	Percentage:	Quality Points:
A	95 to 100	4.0
A-	90 to 94	3.7
B+	87 to 89	3.3
B	83 to 86	3.0
B-	80 to 82	2.7
C+	78 to 79	2.5
C	73 to 77	2.3
C-	70 to 72	2.0
F	Below 69	0

Assignment Submission Instructions

Assignments must be submitted by the stated deadline or special permission must be requested from instructor before the due date. Extensions will not be given beyond the next assignment except under extreme circumstances.



SECTION 6: COURSE POLICIES

Grading Policy

The detailed Grading Policy can be found on the Course Syllabus in Blackboard.

Instructions to access Course Syllabus in Blackboard:

1. Go to Blackboard course site for this course (<http://pgcconline.blackboard.com>)
2. Click on “Syllabus & Schedule” navigation button
3. Click on Course Syllabus document link

Attendance Policy

Students should plan to attend all scheduled classes. If a student has an issue that prevents him/her from attending class, please notify the instructor in advance. The instructor will make sure the student knows what material was covered in class.

Late Work Policy

It is important to complete all work as assigned in a timely manner. Topics in this course build on one another. If you start getting behind on work assigned, it will be difficult to successfully complete the course. **Late work is accepted at the discretion of the instructor.**

Participation Policy

Participation is required for this course. It's 30% of your grade. Please take notes during lecture and ask questions. Please read the chapters before coming to class. Please do not use cell phone in class unless instructed to do so.

Extra Credit Policy

Extra Credit is at the discretion of the instructor.

Plagiarism Policy

At Prince George's Community College, cheating is the act of obtaining or attempting to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means.

Plagiarism is a form of cheating. At Prince George's Community College, plagiarism is the use of distinctive ideas or works belonging to another person without providing adequate acknowledgement of that person's contribution.



Source: PGCC Student Handbook

SECTION 7: COURSE TECHNOLOGY SETUP

Below are instructions to setup and access the technology tools used in this course.

Owl Mail (<http://mail.students.pgcc.edu>)

Owl Mail is the college's student email system. Your instructor will use Owl Mail [*ADD details here*]. To be successful in this course, you should check your Owl Mail account regularly.

To activate your Owl Mail account, follow the directions at <http://live.pgcc.edu/>.

If you already have an active Owl Mail account, you may access your Owl Mail account at <http://mail.students.pgcc.edu>.

Blackboard (<http://pgconline.blackboard.com>)

Blackboard is a web based program that serves as the college's online classroom. In this course, you will use Blackboard to access the eModules.

Instructions to login to Blackboard:

- Go to the Prince George's Community College Blackboard web site, which is located at <http://pgconline.blackboard.com>. NOTE: There is no "www" in the Blackboard address.
- ALL STUDENTS must log in to Blackboard using their **Owl Link** account (this includes students who have used Blackboard in the past).
- If you do not have a **Owl Link** account,
 1. Go to **Owl Link Website** (<http://www.pgcc.edu> --> click "Quicklinks" --> select "Owl Link")
 2. Look up your **Owl Link** username (Under User Accounts, select "What's My User ID")
 3. Reset your **Owl Link** password (Under User Accounts, select "What's My Password")

Note: You MUST use your student PGCC student email address in ALL communication with faculty and staff at PGCC.



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- Once you have your **Owl Link** account information, type it in the Blackboard login box at the <http://pgcconline.blackboard.com>.
- If your login is successful, you will see the Blackboard "Welcome" screen. In the box labeled "My Courses", you will see the course or a list of courses in which you are enrolled. Click on the course name to enter your Blackboard course.

MOAC Labs Online (<https://moac.microsoftlabsonline.com>)

Microsoft Official Academic Course Labs Online is a Lab environment in the cloud. Students will have access to the latest Microsoft software were they can test their skills in a Virtualized environment.

Overview: Microsoft Official Academic Curriculum Labs Online is built on Hyper-V technology. Students access Virtual Machines in a Microsoft Data Center located in the US. It allows students to get hands-on experience on the latest Microsoft technologies with without having to spend \$\$\$ on hardware. Students can access the virtualized environment from anywhere in the world with a high speed internet connection.

System Requirements:

1. Microsoft Windows Operating System: Vista, Windows 7 or Windows 8
2. Internet Explorer with ActiveX enabled. (You must use IE. It doesn't work in other browsers.)
3. Xtreme Consulting Group ActiveX RDP Client (This almost always installs when you launch the labs for the first time.)
4. Registration Code for one or more MOAC Online Labs
5. An email account. Please use your @students.pgcc.edu account.

Access Online Labs:

URL: <https://moac.microsoftlabsonline.com/Account/LogOn?returnUrl=%2fMyAccount>

1. Register for a new account.



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 Microsoft

Microsoft Official
Academic Course
(MOAC) Labs Online

Email Address

Password

Keep me signed in

Sign in

[Forgot your password?](#)



Register for MOAC Labs Online


Register

[Terms of use](#) [Privacy & Cookies](#) [Support](#)

© 2014 Microsoft

2. Enter Your Name, Email and Password. Then click Register.



 Microsoft

Create an account

John

Doe

Your email address will be used as your login and to retrieve a lost password, so please enter a valid address.


john.doe@students.pgcc.edu

john.doe@students.pgcc.edu

.....

.....

Type the characters you see in this picture.
This ensures that a person, not an automated program, is creating this account.



1057

3. Click on My Code at the left. You should have received a code for each Microsoft course that you are enrolled. Enter the registration code under "Add a code to your account." Then click Add Code.



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Microsoft

Welcome John Doe

My account

Add a code to your account

My codes

Add code

Lab history

Enter your access code and click **Add code** to add a new lab to your account. After you have entered your lab access code, it will appear in the **My labs** list below. To take your labs, click the **My labs** tab to the left.

My labs

My codes

Description	Current Status	Expiration Date	Code Used
-------------	----------------	-----------------	-----------

- Your Labs will appear below My codes.
- Now click on My Labs. The interface will let you select which lab you want to access. For example the author selected MOAC70-410 R2. Now you may select from 19-20 different labs. The labs are mapped to the Microsoft Objectives for each exam and are also mapped to chapters in the respective MOAC books.

My account

MOAC70-410 R2

MOAC70-411 R2

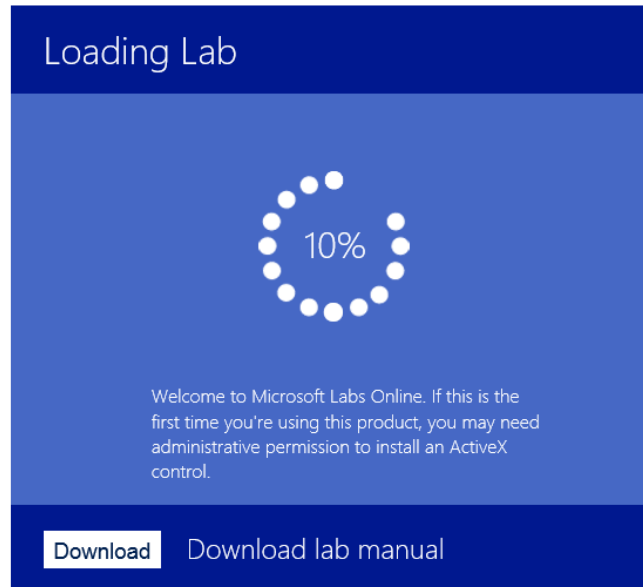
MOAC70-412

MOAC70-680

Labs available for MOAC70-410 R2

70410R2-01 MOAC70410R2-Lab01 - Installing Servers	70410R2-02 MOAC70410R2-Lab02 - Configuring Servers	70410R2-03 MOAC70410R2-Lab03 - Configuring Local Storage
Lab Duration: 120 minutes Description: This lab contains the following exercises and activities: Exercise 4.1: Sharing a Folder; Exercise 4.2: Testing Share Access; Exercise 4.3: Working with NTFS Permissions; Exercise 4.4: Creating Shares More... Take Lab	70410R2-05 MOAC70410R2-Lab05 - Configuring Print and Document Services	70410R2-06 MOAC70410R2-Lab06 - Configuring Servers for Remote Management
70410R2-07 MOAC70410R2-Lab07 - Creating and Configuring	70410R2-08 MOAC70410R2-Lab08 - Creating and Configuring	70410R2-09 MOAC70410R2-Lab09 - Creating and Configuring

- Select a Lab by clicking on "Take Lab"

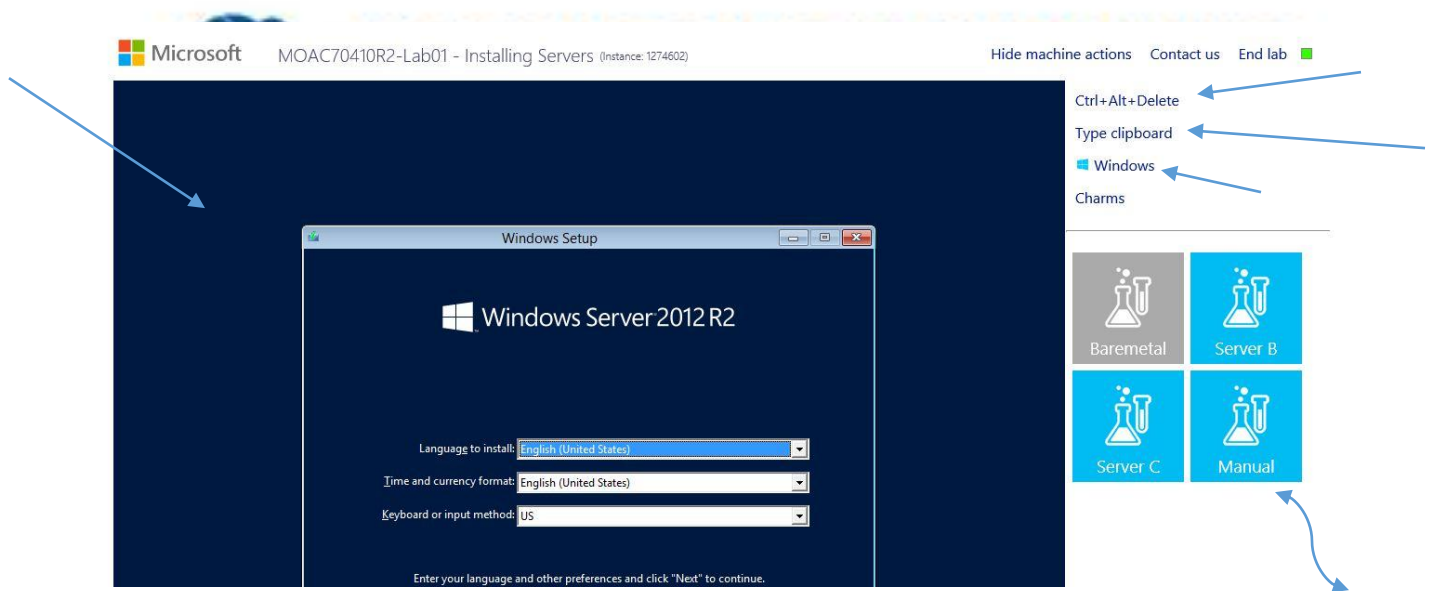


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7. The first time you launch a lab, it will install an ActiveX RDP Client. You must have the Admin Username and Password in order to install this ActiveX client. Sometimes the ActiveX client will NOT install correctly. You can get a copy of the executable from your instructor.

NOTE: These labs only work with Internet Explorer. (This is because of the ActiveX RDP Client.) YOU MUST USE INTERNET EXPLORER TO DO THESE LABS.

8. Now that you are in the lab, it functions like any other Virtual Machine. On the left, you can access the VM. On the right, you can select different Virtual Machines. Click Ctrl+Alt+Delete, copy information to the clipboard and click on the Windows Key on the Virtual Keyboard.
9. Note that you can access the Lab "Manual" on the right.



For questions and troubleshooting, Please contact Xtreme Consulting Group.

Support

Email: mocsupp@xtremeconsulting.com

Telephone: 800-239-7051

12 am – 6 pm PST, Monday through Friday

9 am – 6 pm PST, Sunday

Text Support: Click [here](#) for chat support.

Lab

SECTION 8: TECHNOLOGY QUICKLINKS

Below are url links to the technology tools used in this course:

Owl Mail <http://mail.students.pgcc.edu>
Blackboard <http://pgconline.blackboard.com>
TestOut <http://www.testout.com>
NetLabs <https://moac.microsoftlabsonline.com>

SECTION 9: STUDENT SUPPORT



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Technical Support

For technical support in this course, your first point of contact should be your instructor.

1. Blackboard: Please look to the following site:
<http://www.pgconline.com/technicalSupport.html>
2. MOAC Labs Online
Email: mocsupp@xtremeconsulting.com
Telephone: 800-239-7051
Midnight – 6 pm PST, Monday through Friday
9 am – 6 pm PST, Sunday
Text Support: Click [here](#) for chat support.

Disability Support Services

Students requesting academic accommodations are required to contact the College's Disability Support Services Office (B-124) or call (301) 546-0838 (voice) or (301) 546-0122 (TTY) to establish eligibility for services and accommodations. Students with documented disabilities should discuss the matter privately with their instructors at the beginning of the semester and provide a copy of the completed Student/Faculty Accommodation Form.