



HYBRID TECHNOLOGY TRAINING
PRINCE GEORGES COMMUNITY COLLEGE

MICROSOFT: CONFIGURING ADVANCED WINDOWS SERVER 2012 SERVICES

STUDENT HANDBOOK



HYBRID TECHNOLOGY TRAINING

PRINCE GEORGES COMMUNITY COLLEGE

WELCOME!

Welcome to the Microsoft Configuring Advanced Windows Server 2012 Services: Exam 70-412.

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: Configuring Advanced Windows Server 2012 Services Objective

This course is designed as a Hybrid Virtualization Training course. It blends in class instruction with a virtual lab environment. Students will learn to configure advanced Windows Server 2012



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Services. Topics include: Network Load Balancing, Failover Clustering, Configuring Advanced File Services, Site-Level Fault Tolerance, Advanced DHCP Implementation, Advanced DNS, Configuring Sites and Trusts, AD Replication, AD Federation Services, AD Certificate Services and AD Rights Management. This course maps to a Microsoft Certification exam: 70-412.

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 configure advanced Windows Server 2012 Services. Topics include: Network Load Balancing, Failover Clustering, Configuring Advanced File Services, Site-Level Fault Tolerance, Advanced DHCP Implementation, Advanced DNS, Configuring Sites and Trusts, AD Replication, AD Federation Services, AD Certificate Services and AD Rights Management.

Required Textbook

Book:

70-412 Configuring Advanced Windows Server 2012 Services

ISBN: 978-1-118-51159-6

Publisher: Wiley & Sons INC.

Author: Pat Regan

Other Required Course Materials

Online Labs:

70-412 Microsoft Online Academic Curriculum (MOAC)

Note: The book and the MOAC Online Reg Card Set will be bundled together. ISBN: 978-11118-66838-2

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
- 70-412 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+, Security+, 70-410 and 70-411.

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 5 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: 40 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-70-412.aspx>

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

1. Configure and Manage High Availability
 - a. Configure Network Load Balancing (NLB)
 - b. Configure Failover Clustering
 - c. Manage Failover Clustering Roles
 - d. Manage VM Movement
2. Configure File and Storage Solutions
 - a. Configure Advanced File Services
 - b. Implement Dynamic Access Control (DAC)
 - c. Configure and Optimize Storage
3. Implement Business Continuity and Disaster Recovery
 - a. Configure and Manage Backups
 - b. Recover Servers
 - c. Configure Site-Level Fault-Tolerance
4. Configure Network Services
 - a. Implement an advanced DHCP Solution
 - b. Implement an advanced DNS Solution
 - c. Deploy and Manage IP Address Management (IPAM)
5. Configure the Active Directory Infrastructure
 - a. Configure a Forest or a Domain
 - b. Configure Trusts
 - c. Configure Sites
 - d. Manage Active Directory and SYSVOL Replication
6. Configure Identity and Access Solutions
 - a. Implement Active Directory Federation Services
 - b. Install and Configure Active Directory Certificate Services
 - c. Manage Certificates
 - d. Install and Configure Active Directory Rights Management Services



SECTION 3: COURSE SCHEDULE

Tentative Course Schedule:

MCSA Part III: 70-412	Tentative Course Schedule:	Last Updated:
Date:	Topic:	Reading Assignment:
Day 1	Configuring Network Load Balancing	Chapters 1-4
	Configuring Failover Clustering	
	Managing Failover Clustering	
	Managing Virtual Machine Movement	
Day 2	Configuring Advanced File Services	Chapters 5-8
	Implementing Dynamic Access Control	
	Configuring and Optimizing Storage	
	Configuring and Managing Backups	
Day 3	Recovering Servers	Chapters 9-12
	Configuring Site-Level Fault Tolerance	
	Implementing an Advanced DHCP Solution	
	Implementing an Advanced DNS Solution	
Day 4	Deploying and Managing IPAM	Chapters 13-16
	Configuring a Domain and Forest	
	Configuring Trusts	
	Configuring Sites	
Day 5	Managing AD and SYSVOL Replication	Chapters 17-21
	Implementing AD Federation Services	
	Installing and Configuring AD Certificate Services	
	Managing Certificates	
	Installing and Configuring AD Rights Management Services	

Labs:

Date:	Lab Name:	Chapter:
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Day 1	MOAC70412-Lab1	Chapter 1
	MOAC70412-Lab2	Chapter 2
	MOAC70412-Lab3	Chapter 3
	MOAC70412-Lab4	Chapter 4
Day 2	MOAC70412-Lab5	Chapter 5
	MOAC70412-Lab6	Chapter 6
	MOAC70412-Lab7	Chapter 7
	MOAC70412-Lab8	Chapter 8
Day 3	MOAC70412-Lab9	Chapter 9
	MOAC70412-Lab10	Chapter 10
	MOAC70412-Lab11	Chapter 11
	MOAC70412-Lab11	Chapter 12
Day 4	MOAC70412-Lab13	Chapter 13
	MOAC70412-Lab14	Chapter 14
	MOAC70412-Lab15	Chapter 15
	MOAC70412-Lab16	Chapter 16
Day 5	MOAC70412-Lab17	Chapter 17
	MOAC70412-Lab18	Chapter 18
	MOAC70412-Lab19	Chapter 19
	MOAC70412-Lab20	Chapter 20
	MOAC70412-Lab21	Chapter 21

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

Instructions to access Course Schedule 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 Schedule document link



SECTION 4: COURSE MODULES

Module #	Module Name	Course Objective(s) Covered	# Hours
1	Configuring Network Load Balancing	Configuring Network Load Balancing	Day 1: 2hours
2	Configuring Failover Clustering	Configuring Failover Clustering	Day 1: 2 hours
3	Managing Failover Clustering	Managing Failover Clustering	Day 1: 2 hours
4	Managing Virtual Machine Movement	Managing Virtual Machine Movement	Day 1: 2 hours
5	Configuring Advanced File Services	Configuring Advanced File Services	Day 2: 2 hours
6	Implementing Dynamic Access Control	Implementing Dynamic Access Control	Day 2: 2 hours
7	Configuring and Optimizing Storage	Configuring and Optimizing Storage	Day 2: 2 hours
8	Configuring and Managing Backups	Configuring and Managing Backups	Day 2: 2 hour
9	Recovering Servers	Recovering Servers	Day 3: 2 hour
10	Configuring Site-Level Fault Tolerance	Configuring Site-Level Fault Tolerance	Day 3: 2 hours
11	Implementing an Advanced DHCP Solution	Implementing an Advanced DHCP Solution	Day 3: 2 hours
12	Implementing an Advanced DNS Solution	Implementing an Advanced DNS Solution	Day 3: 2 hours
13	Deploying and Managing IPAM	Deploying and Managing IPAM	Day 4: 2 hours
14	Configuring a Domain and Forest	Configuring a	Day 4:



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		Domain and Forest	2 hours
15	Configuring Trusts	Configuring Trusts	Day 4: 2 hours
16	Configuring Sites	Configuring Sites	Day 4: 2 hours
17	Managing AD and SYSVOL Replication	Managing AD and SYSVOL Replication	Day 5: 2 hours
18	Implementing AD Federation Services	Implementing AD Federation Services	Day 5: 2 hours
19	Installing and Configuring AD Certificate Services	Installing and Configuring AD Certificate Services	Day 5: 2 hours
20	Managing Certificates	Managing Certificates	Day 5: 1 hours
21	Installing and Configuring AD Rights Management Services	Installing and Configuring AD Rights Management Services	Day 5: 1 hours



SECTION 5: ASSIGNMENT DESCRIPTIONS AND RUBRICS

Course Assignment Descriptions

Grading Allocation:

Lab Assignments	40%
E-Modules	10%
Class Participation	30%
Practice Exam (70-412)	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 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](#)

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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

My codes

Lab history

My labs

Add a code to your account

Add code

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 codes

Description	Current Status	Expiration Date	Code Used
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- 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

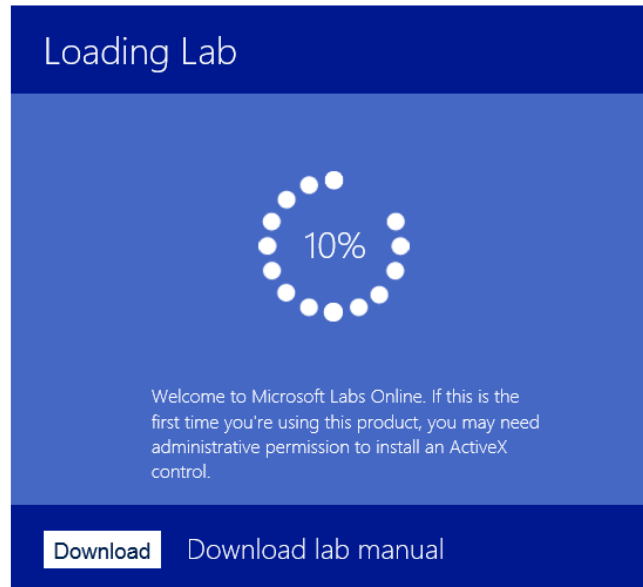
MOAC70-412

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"

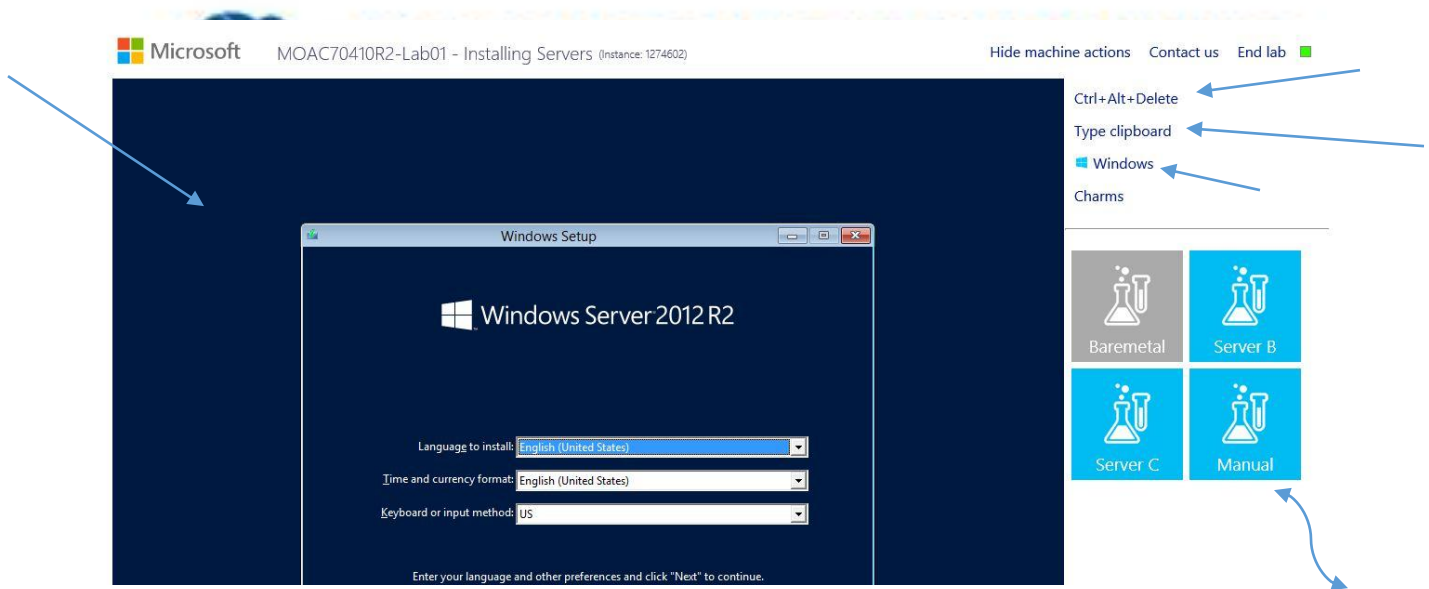


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7. The first time you launch a lab, it will install an ActiveX RDP Client. You must have the Admin Username and Password in order to install this ActiveX client. Sometimes the ActiveX client will NOT install correctly. You can get a copy of the executable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