Catalog Description
Building on fundamentals of structured and object-oriented programming, this course covers client and server side scripting languages and a SQL database management system. Students will use open source software tools to develop database-enabled web applications.

Rationale
This course enables students to understand and develop proficiency in some of the basic technologies used to implement applications with Web browser user interfaces, server-side processing, and data storage.

Objectives
The student will be given the opportunity to:
1.   Describe issues related to the design and implementation of network-enabled information systems.
2.   Describe the functionality of some common server-side web application technologies.
3.   Demonstrate proficiency in implementing those technologies.

Prerequisites
▪   IT 206: Object Oriented Techniques for IT Problem Solving
▪   IT 214: Database Fundamentals

The prerequisite course must be completed prior to, not concurrently with, this course. Realize that a grade of "C-" or lower in the prerequisite courses does not satisfy the requirement of being completed prior to.

If you have questions about this policy, please contact the Instructor so that problems can be avoided later on (such as being dropped from the course).

Textbook
D. Gosselin, D. Kokoska, and R. Easterbrooks, *PHP Programming with MySQL,* 2nd ed. Boston: Course Technology, 2011.

Readings
Readings for each unit of this course are listed on the Course Schedule found on the Blackboard Learning System (described below). You will be expected to complete reading assignments before attending the course session. Additional reading materials may be assigned as the semester progresses or if the Instructor finds something particularly relevant to an upcoming topic.

Accounts
▪   Blackboard Learning System [Blackboard]: This account is set up by the staff in the Instructional Technology division, and is necessary for our course (http://mymason.gmu.edu). Your username and password correspond with your university email account. If you need an account or are having problems accessing your account please contact the Instructional Technology division (http://doit.gmu.edu).
▪   Helios Server and Zeus Database Server: Enrollment in the course automatically grants you a server account and a database account. You can sign up for (and reset) your database account at https://access.vse.gmu.edu. If you enroll in the course after the semester has started you may need to request a server account by sending an email to the System Administrators (system@vse.gmu.edu) with the course name/number, section, and server name (Helios). The System Administrators should also be contacted during the semester concerning any server issues.

Hardware and Software
- Computer: Access to a configurable and Internet-accessible computer capable of fully running Blackboard is required. This computer needs to be equipped with speakers or a headset. Preparing the computer may require the installation of software and configuring the connection and audio settings. NET students need an Adobe Flash (.swf), MPEG-4 Part 14 (.mp4), and Audio Video Interleave (.avi), capable player. Availability of a microphone during the configuration is recommended however its use throughout the semester will be limited.
- Virtual Private Network [VPN]: As the Helios Server and Zeus Database Server are development servers, direct access from off-campus networks is not allowed. In order to gain access to these servers from off-campus, VPN software is necessary and can be obtained with setup instructions at https://access.vse.gmu.edu. If you are having problems with the VPN, including installation, assistance can be obtained via the System Administrators (system@vse.gmu.edu).
- Secure Shell [SSH]: Transferring files and configuring the Helios Server and Zeus Database server require SSH protocols. The necessary software to do this is available from the ITU Support Center at https://itservices.gmu.edu/downloads/.
- Adobe Acrobat Reader [Acrobat]: As course materials may use features of the latest specification, you should install the current major release of Acrobat. The necessary software is available from Adobe at http://get.adobe.com/reader/.

Communication
Communication and course changes may be discussed only in the course sessions so your involvement in these sessions is recommended. As emails are usually addressed once a day Monday through Friday, emails received after this time may not receive a reply until the following business day.

General communication, access to the learning modules, course materials, and grades will occur through Blackboard with our section for this course being '*YYYYTT.XXXXX*: IT-207-### (*TT YYYY*)', where *YYYY* is the current year, *TT* is the current term, *XXXXX* is the course identifier, and ### is the section in which you are enrolled. If you need to download any information from the course, you should do this on an ongoing basis, and definitely before the course is over. You are expected to check your university email and the Blackboard course section regularly. To assure you are prepared for the course sessions you should confirm that you can view all the Learning Module materials from within the Blackboard course section.

Instructors, staff, and Teaching Assistants will take care to protect the privacy of each student's scores and grades. Communication on issues relating to the individual student should only be conducted during office hours or using email. Office hours are the preferred method. University policy requires you to use your university account if emailing. You should not use the discussion forums on Blackboard for this purpose. Additionally, the Instructor will not discuss issues relating to an individual student with anyone lacking a need to know without prior written permission of the student. This includes a student's family members and other students. Under no circumstances will a student's graded work be returned to another student.

Course Requirements
To complete the course successfully you must complete lab assignments, quizzes, practica, and participate in course discussions and exercises. Realize attendance is not considered participation. Each component of the course is weighted as follows:

Component	Weight
Participation	5%
Quizzes	40%
Lab Assignments	10%
Practica	45%

If you are encountering difficulty in meeting course requirements, or should some dire circumstance arise, it is important you are proactive in contacting the Instructor prior to the due date. Inquiries regarding the grading of an assignment or assessment must be made within one week of the grade being posted. Potential problems can be minimized with timely communication. Delay in bringing your circumstances to the Instructor's attention will substantially decrease the likelihood of receiving a favorable outcome.

In order to assess your progress in the course, mid-term evaluations will be calculated using the assignments and assessments graded at the point of determination. Mid-term evaluations will be posted to Patriot Web (http://patriotweb.gmu.edu) between the 5th and 9th week of the course. These evaluations do not become part of the student's official or unofficial record or transcript and are not directly used as part of a calculation of GPA. Mid-term evaluations are not provided during the summer sessions.

The deadline for a selective withdraw from the course with a 'W' grade is the end of the 10th week of the semester. It is proportioned to be shorter during summer session offerings. Forms do not need the dean's approval and may be obtained from your department's office. Completed forms should be returned no later than Friday of that week. After that date, a grade will be assigned based on the work that you have submitted. Three selective withdrawals are allowed during your undergraduate studies at the university.

Final averages are assigned a letter grade according to the following ranges:

Percentage	Grade	Courses
[97, ∞)	A+	Passing
[93, 97)	A	
[90, 93)	A-	
[87, 90)	B+	
[83, 87)	B	
[80, 83)	B-	
[77, 80)	C+	
[73, 77)	C	
[70, 73)	C-	Conditional Passing
[60, 70)	D	
[0, 60)	F	Failing

Conditional Passing letter grades are considered passing for undergraduate courses. However, a Passing letter grade is required in the undergraduate Applied Information Technology program for any course that is a prerequisite for other courses. This course is a prerequisite for a number of other courses.

Final grades will be posted to Patriot Web, and will not be emailed or appear on Blackboard. A student with a 'hold' on their academic account will be unable to access final grades until the Registrar has removed the hold. University policy states that you have one regular semester to question a grade. After that time has passed a grade cannot be changed.

Course Lectures
Scheduled course sessions will be spent on clarification, amplification, and review of material through the use of slides, examples, and exercises. Lecture slides are complements to the lecture session, not substitutes for it. Each course session is an excellent time for you to raise questions, request additional examples, and get explanations of any concepts that are still unclear to you.

In order to keep an environment conducive to learning, disruptions should be kept at a minimum while attending a course session. Social discussions and electronic devices are potential distractions while attending a course session. Cell phones, pagers and other handheld devices should be turned off or set to 'silent' mode and not used while in the session. Personal computers can be used if university computers are not provided. University computers are to be used only if such use is directly related to the course activity in progress. For some activities the Instructor may ask that computers/devices not be

used in order to maximize student engagement. Except through prior arrangement with the Instructor and the Office of Disability Services [ODS], creating a recording of the course lecture is not allowed, except by the Instructor.

Participation

Students are expected to complete any required preparatory work, attend each course session, and participate actively in lectures, discussions, and exercises. Active participation will take the form of questions, feedback, analysis, information, and examples all in support of the class's exploration of the topics, reading, and assignments. As members of the academic community, all students are expected to contribute regardless of their proficiency with the subject matter.

In addition, a discussion forum has been set up on Blackboard for class use and is an avenue where students can raise questions on the course material. It is suggested that you set aside a number of time periods each module to review and participate in the course discussion forum. Go to the topic discussions regularly and read the code updates, questions, comments, and feedback that others have posted. Identify any issue, example, or point you can make that might add value to the thread. Write your contribution directly in a Blackboard message. Postings should only address one issue. Rely on each other to feed the conversation threads rather than the Instructor, who will only be acting as a moderator. Since participation is a major part of both your and others success, it is expected that multiple postings should be made for each session module (information, questions and/or answers).

If you are having difficulties understanding topic concepts, have additional information to share from your personal experiences, or are having coding problems, the discussion forum is the place to post this information. Even though attempts have been made to correct code errors in the book, errors in code still can occur. You are encouraged to post corrections to the the errors you find in the book. You are also encouraged to help others with problems they may post concerning the use of various environments, understanding the statements in the language, understanding programming concepts, understanding the intent of the assignments, and locating bugs in the assignments.

While you can provide similar coding examples to address a question a student asks, you must not provide solutions or provide code for any other student's assignment. Website examples should only come from the websites provided in the lecture materials or assignment guidelines. Examples should only guide the student toward resolving a bug, not provide a solution to a bug. As much of the course is about developing problem solving skills, you should not provide your approach to solving a problem. Providing solutions, using unauthorized websites, etc. are considered collusion, a form of academic dishonesty.

Participation will be evaluated by its quality as well as its frequency, however quality is much more important than quantity. Participation contributions are based on the following criteria:
- Thoughtfulness
- Usefulness
- Thoroughness
- Clarity

It should be understood that the grade for participation may be subjective and competitive in nature. This means that there are no concrete rules for exactly what constitutes full participation. A well engaged student and thought out statements will always be more useful than discussions that stray significantly from the topic at hand.

Quizzes

Quizzes are based upon the modules and are used to evaluate your mastery of terms, concepts, and application. You should prepare for quizzes by understanding the reading and materials presented in the respective course sessions. Short Quizzes and Comprehension Checks in the assigned chapter(s) may help you evaluate your progress on these materials.

To complete these quizzes you will not be allowed to use your notes, text, web, etc or help each other. Quizzes are retained by the Department of Applied Information Technology and are not returned to students, however grades are posted on Blackboard.

Anticipated quiz dates are shown on the Course Schedule. As quiz answers may be reviewed, requests to take quizzes at a different time will not be honored except in exceptional circumstances. Exceptional circumstances include a documented medical excuse, a serious family emergency, or scheduled university-approved off-campus event. These must be arranged with the Instructor in advance.

Lab Assignments
Throughout the semester we will use computers to perform a series of assignments. These assignments will help reinforce the materials covered in the lecture portion of the course while also developing problem solving skills by building on topics as you learn about them. In addition, lab assignments will also serve to develop skills needed for the Practica.

Unless otherwise stated by the Instructor, all lab assignments are expected to be an individual effort. Students should use their own computer. When the facilities are open, there are general-purpose machines throughout the university that you can use.

For each lab assignment, you will be given a problem based on topics covered previously in the lecture modules and/or readings. To complete these assignments, you will be restricted to your notes, text, lecture materials, and the web sources noted on each assignment. The assignments must clearly display your name in the interface (if any) and be commented with your name in all files. Keep a backup of your work in case you need it for later lab assignments.

Assignments will be given and should be submitted according to the Course Schedule. You must turn in your lab assignment to the appropriate Assignment drop box on Blackboard in our IT 207 section. For accreditation purposes, submissions by any other means, including email, cannot be accepted. Even though solutions are not distributed, as the instructor may provide discussions of solutions, late lab assignment submission points cannot be accepted. In addition, help will not be provided on the due date of an assignment.

If you do not expect to complete the requirements for a lab assignment submission point, you should still submit what you have completed by its due time. If you miss a lab assignment submission point, you must submit what you have completed before proceeding with any subsequent submission points for the assignment. If you are unable to finish a lab assignment, it is advised that you seek help utilizing the course allowed resources as later lab assignments may build on that assignment.

Practica
Lab practica will be given during multi-hour time blocks during the semester. Each practicum will evaluate your mastery in programming applications and applying concepts presented to that point in the course. You should prepare for a practicum by reviewing past assignments and course exercises. During a lab practicum you will be allowed to use your notes, text, and previously submitted assignments. The practica are retained by the Department of Applied Information Technology and are not returned to students, however grades are posted on Blackboard.

As with the quizzes, requests to take a practicum at a different time will not be honored except in exceptional circumstances. Exceptional circumstances include a documented medical excuse, a serious family emergency, or scheduled university-approved off-campus event. This must be arranged with the Instructor in advance.

Programming Tutors
In addition to the Lab Instructor who is an advanced resource for programming questions, there are also programming tutors who can assist you with your assignments. The tutors can assist with problems using the programming environment, understanding the statements in the language, understanding programming concepts, understanding the intent of the assignments, and locating bugs in your

assignments. The programming tutors will not write the code for the assignments. The tutors are located at Fairfax in ENG 2614 Monday - Thursday 10:00am - 6:00pm and Friday 10:00am - 1:00pm. Information on tutors covering Applied Information Technology courses can be found on the Peer Mentors website (http://volgenau.gmu.edu/undergraduates/peer-mentors). Tutors are not provided during the summer sessions.

In addition to the tutors provided by the Engineering school, tutors are available as part of the STARS peer mentoring program. This program is facilitated by the Department of Applied Information Technology and provides tutors at both the Fairfax and Prince William campuses. Information on the tutor covering this course can be found on the STARS website (https://ait.gmu.edu/stars/peermentoring.html). Tutors are not provided during the summer sessions.

Disability Accommodations
The Office of Disability Services [ODS] (http://ods.gmu.edu) works with students with disabilities to arrange for appropriate accommodations to ensure equal access to university services. Any student with a disability of any kind is strongly encouraged to register with ODS as soon as possible and take advantage of the services offered.

Accommodations for students with disabilities must be made in advance as ODS cannot assist students retroactively. At least one week's notice is required for special accommodations related to assessments. Any student who needs accommodation should contact the Instructor during the first week of the semester so the sufficient time is allowed to make arrangements.

Academic Originality
In this course you are expected to create academic works that are completely new and original. In contrast, academic dishonesty is misrepresenting someone else's work as your own, either with or without his/her knowledge. This includes the past or current work, whether in whole or in part, of you, any other source or person, book, article, Internet source, student, friend, colleague, relative, faculty member, or absolute stranger. Academic dishonesty can be plagiarism, collusion, or outright cheating. A reference to clarify what constitutes plagiarism can be found at the IEEE (http://www.ieee.org/publications_standards/publications/rights/ID_Plagiarism.html).

Since you will be allowed to work on your own time to complete assignments, it is expected that you will continue to work independently unless the Instructor allows it otherwise. Any assignments designated as group work may require one assignment to be turned in for the entire group with each group member's name identified. All other assignments are to reflect your own individual work. Submission of an assignment under your name indicates that you understand and agree to abide by the Honor System and Code and that you agree to allow your assignment to be submitted to originality checking repositories.

Plagiarism and other academic actions contrary to the university's Honor System and Code (http://catalog.gmu.edu/content.php?catoid=5&navoid=410#Honor) will be addressed in accordance with these policies. These are single instance of policies. There are no second chances. All students involved will receive an 'F' for the course.

Academic Responsibilities
Whether in a NET section or not, it is easy to fall behind. Do not let this happen to you because it will impact the quality of your course experience and your grade. Students often have full-time jobs and family obligations that can be quite demanding. When deciding whether or not to take this course, the student needs to determine whether they can balance their academic responsibilities with those of their job and/or family. If the student anticipates that circumstances will prevent him/her from participating regularly in the course sessions or from turning assignments in on time, they should reconsider the decision to take the course. Individual work on assignments and/or taking a course from the NET does not mean isolated learning. Without a student's active participation in the class, everyone's experience is diminished.