NYU SCHOOL OF PROFESSIONAL STUDIES

Database Technologies for Web Applications

MASY1-GC 3540-100| Fall 2022 | 9/07/2022 - 12/14/2022 | Wednesdays | 3 Credits
Modality: In-Person
Course Site URL: https://brightspace.nyu.edu/d2l/home/196089

General Course Information

Name/Title: David Prager, Adjunct Instructor ,He/Him/His
NYU Email: david.prager@nyu.edu
Class Meeting Schedule: 9/07/2022 - 12/14/2022 | Wednesdays / 2:15-4:50)
Class Location: Bldg.: 7E12 Rm: 229
Office Hours: By appointment; please e-mail me to arrange

Description

This course examines the database and related applications technologies that have come to be critical in the enablement of web-based applications for e-commerce in its many variations. This lab-based course provides an in-depth study of using database technologies in the context of the Internet, including Oracle, and open-source variations such as MySQL; the role of related scripting languages such as PHP. Also covered are the theory and practice involved in dynamic, database driven websites that are controlled using CSS and other web-enabling artifacts. Upon completion of this course, the student will understand the features of page scripting languages; understand the database options available for the web-based applications; explain how these can be combined with each other and with additional web-based tools to create effective web-based applications.

Prerequisites

3500 – Database Design and Management

Learning Outcomes

At the conclusion of this course, students will be able to:

- Construct HTML pages and specifically containing HTML grids and forms
- Integrate CSS with HTML to improve visual web page presentation
- Create database tables to support web interaction
- Construct an end-to-end database driven web application
- Develop PHP or Python code and integrate that with HTML and database to build web applications
- Select the appropriate features of page scripting languages and database options for web-based applications

Communication Methods

Be sure to enable NYU Brightspace notifications for updates to Discussions and check your email frequently. This will be the primary method I use to communicate information critical to your success in the course. To contact me, send me an email. I typically respond within 24 hours.

Credit students must use their NYU email to communicate. Brightspace course mail supports student privacy and FERPA guidelines.

Students have the opportunity to add their pronouns, as well as the pronunciation of their names, into Albert. Students can have this information displayed to faculty in Albert, Brightspace, and other NYU systems. Students can also opt out of having their pronouns viewed by their instructors.

https://www.nyu.edu/students/student-information-and-resources/registration-records-and-graduation/forms-policies-procedures/change-of-student-information/pronouns-and-name-pronunciation.html

Structure | Method | Modality

This course will meet in-person, once a week on Wednesdays. Brightspace is the learning management system we will use for assignments, announcements, and emails. The course will encompass lectures, assignments, a final exam, and a team project. All class content will be made available online via Brightspace. Students should check the web site daily for any updates or announcements.

Expectations

Learning Environment

You play an important role in creating and sustaining an intellectually rigorous and inclusive classroom culture. Respectful engagement, diverse thinking, and our lived experiences are central to this course and enrich our learning community.

Participation

You are integral to the learning experience in this class. You are expected to participate in each class session by offering your understanding of the subject, sharing ideas, or discussing/commenting on another student's comment.

Assignments and Deadlines

Students must complete and submit all assigned homework on time. Late submission of homework will either not be accepted or will result in a lower grade.
See full detail of expectations under "Grading/Assessment" below. Further information about specific assignments can also be found in the "Course Outline" section.

Course Technology Use

You are required to have your own laptop in class. Class sessions may make use of Zoom. You may be required to download the following software to your laptop:

- Amazon Workspaces
- MySQL
- PhpStorm
- PHP Interpreter

Detailed instructions will be provided for downloading, installing, and configuring this software.

IT Service Desk
(212)-998-3333
24 hours a day, 7 days a week
Email: AskIT@nyu.edu

Zoom Support

- NYU Zoom Guide for Students

Brightspace Support

- Log-in to the Brightspace platform or visit the Student Training website.
- Video on how to Navigate the Bright Space Learning Environment

Feedback and Viewing Grades

I will provide timely meaningful feedback on all your work via the course site in NYU Brightspace. You can access your grades on the course site Gradebook.

Attendance

I expect you to attend all class sessions. Attendance will be taken into consideration when determining your final grade. Refer to the SPS Policies and Procedures page for additional information about attendance.

Excused absences are granted in cases of documented serious illness, family emergency, religious observance, or civic obligation. In the case of religious observance or civic obligation, this should be reported in advance. Unexcused absences from sessions may have a negative impact on your final grade. Students are responsible for assignments given during any absence.

Each unexcused absence or being late may result in a student's grade being lowered by a fraction of a grade. A student who has three unexcused absences may earn a Fail grade.

University Calendar Policy on Religious Holidays:

https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/university-calendar-policy-on-religious-holidays.html

Students who join the course during add/drop are responsible for ensuring that they identify what assignments and preparatory work they have missed and complete and submit those per the syllabus.

Textbooks and Course Materials

The following is the required text:

Learning PHP, MySQL & JavaScript (6th Edition) by Robin Nixon
ISBN-13: 978-1-492-09382-4
Publisher: O'Reilly, 2021

This book is available to you online at no cost. In order to access it via Brightspace, click on More Tools, then Course Reserves and then the View Item link.

The following are recommended online resources to supplement the required text:

- W3Schools online tutorials for HTML, CSS, PHP, and SQL
- LinkedIn Learning video tutorials for HTML, CSS, PHP, and SQL

Instructor may also provide session by session content, which will be posted online.

Grading | Assessment

Your grade in this course is based on your performance on multiple activities and assignments. Since all graded assignments are related directly to course objectives and learning outcomes, failure to complete any assignment will result in an unsatisfactory course grade. Please carefully

proof-read your assignments before submitting them for a grade. I will update the grades on the course site each time a grading session has been completed— typically three (3) days following the completion of an activity.

DESCRIPTION	PERCENTAGE
Assigned Activities (total of 6)	50%
Quizzes (total of 9)	10%
Participation	10%
Project	20%
Final Exam	10%
TOTAL POSSIBLE	100%

Individual Homework Assignments: Homework assignments must be submitted on time. In general, the due date for assignments will be either 1 or 2 weeks following the date assigned (unless otherwise instructed). Late submission will severely impact your homework grade or may not be accepted altogether, at instructor's discretion. All homework must be submitted to Brightspace before the due date.

Reading Quizzes: You are required to be prepared for class and as such will be assigned reading/research materials the week prior to each class. There will be a reading quiz based on the reading assignments of the week.

Class Participation: To receive full credit for the course, you should attend all classes since much of the learning occurs during class lectures, presentations, and class discussions. Please contact the instructor if you anticipate missing any part of the class. Participation grades will be based on:

- Involvement in class discussions and activities
- Participation which demonstrates integration of reading, class work, relevance, and application.
- Willingness to learn by accepting feedback, trying new skills and approaches, etc.
- Quality/quantity of providing effective and balanced feedback.

Group/Team Project: There will be a group/team class project. The project will be the culmination of topics, concepts and competencies learned in this class. There will be various project milestone deliverables during the semester. These are intended to ensure that progress is being made on the project and allow a dialog with the instructor regarding the requirements. The group project grade will be based on:

- Student level of participation in the team project.
- Student will be assessed both as an individual, and as part of the overall team
- Individual contribution will be assessed by identifying the components of the project student worked on and contributed to the overall project (Example database creation, data preparation and load, etc.)
- Group contribution will be assessed on overall project depth of content and delivery. For the group assessment portion, all individuals within the group will receive the same grade.
- Fulfilment of all requirements stated for the project defined under "final project" on the course web site.

All groups have the same group assignment. Requirements for the group project will be defined on the course web site.

Final Exam: There will be a final exam. The exam will be an open book, open notes/internet style exam. The exam will test the student's acquisition of topics, concepts and competencies learned in this class. Email and Instant Messaging (WeChat etc.) are strictly prohibited.

See the "Grades" section of Academic Policies" for the complete grading policy, including the letter grade conversion, and the criteria for a grade of incomplete, taking a course on a pass/fail basis, and withdrawing from a course.

NYU SPS Graduate Grading Scale

A	95-100	4.000	**Exceptional**: Demonstrates exceptional mastery of all learning outcomes of the course and thorough and complete understanding of all concepts.
A-	90-94	3.667	**Excellent**: Demonstrates highly competent mastery of all learning outcomes of the course and strong understanding of all concepts.
B+	87-89	3.333	**Very Good; exceeds course standards**: Demonstrates mastery of all learning outcomes of the course and understanding of core concepts.
B	83-86	3.000	**Good; meets course standards**: Demonstrates mastery of some learning outcomes; understanding of some core concepts could be improved.
B-	80-82	2.667	**Somewhat Satisfactory; meets some course standards and requires improvement**: Demonstrates basic understanding of some learning outcomes; improved understanding of all core concepts is needed.
C+	77-79	2.333	**Less than Satisfactory; requires significant improvement**: Demonstrates partial understanding of all learning outcomes and core concepts; requires significant improvement.
C	73-76	2.000	**Unsatisfactory; requires substantial improvement**: Demonstrates partial understanding of some learning outcomes and core concepts; requires substantial improvement.
C-	70-72	1.667	**Unsatisfactory; requires extensive improvement**: Demonstrates poor understanding of all learning outcomes and core concepts; requires extensive improvement.
F	Below 70		**Fail**: Demonstrates minimal to no understanding of all key learning outcomes and core concepts; work is unworthy of course credit towards the degree.

From NYU SPS Policies and Procedures

Course Outline

Start/End Dates: 9/07/2022 - 12/14/2022 | Wednesdays
Time: 2:15 pm - 4:50 pm ET
No Class Date(s): No class date: Wednesday, 11/23/22, Fall Break
Special Notes: N/A

Week 1, September 7, 2022, Course Introduction and Web Architecture

- Student and Instructor Introductions
- Review of Syllabus
- Web Architecture

Assignments:
None
Reading:
www.w3schools.com: SQL Database
LinkedIn Learning: MySQL Essentials

Week 2, September 14, 2022, Creating Databases and Querying Data

- Create and drop databases
- Insert data into database tables
- Query data in databases

Assignments due midnight 09/20/22:
Reading Quiz 1: HTML
Assignment 1 Create database and run reports
Reading:
www.w3schools.com: HTML

Week 3, September 21, 2022, HTML

- Using HTML to create page content

Assignment due midnight 09/27/22:
Reading Quiz 2: CSS
Assignment due midnight 10/04/22:
Assignment 2 - Produce website design
Reading:
Nixon text: Chapter 18 CSS

Week 4, September 28, 2022, Cascading Style Sheets (CSS)

- Using CSS to enhance website

Assignment due midnight 10/4/22:
Reading Quiz 3: Flexbox
Assignment 2 - Produce website design
Project milestone #1 – Database Design
Reading:
www.w3schools.com: Flexbox

Week 5, October 5, 2022, Advanced CSS

- Using Flexboxes and Grids

Assignment due midnight 10/11/22:
Reading Quiz 4: Basic PHP

Assignment due midnight 10/18/22:
Assignment 3 - Develop Static website
Reading:
Nixon text: Chapter 3 & 4

Week 6, October 12, 2022, Introduction to Programming and PHP

- PHP Data Structures, Operators and Program Flow

Assignment due midnight 10/18/22
Reading Quiz 5: PHP Arrays
Assignment 3 - Develop Static website
Reading:
Nixon text: Chapter 6
LinkedIn Learning: PHP Essentials

Week 7, October 19, 2022, PHP Arrays

- PHP Arrays

Assignment due midnight 10/25/22
Reading Quiz 6: PHP Functions
Project milestone #2 – Welcome Page
Assignment due midnight 11/1/22
Assignment 4 - Make website Dynamic
Reading:
Nixon text: Chapter 5

Week 8, October 26, 2022, PHP Functions

- PHP Functions

Assignment due midnight 11/1/22
Reading Quiz 7: Forms
Assignment 4 - Make website Dynamic
Reading:
Nixon text: Chapter 11

Week 9, November 2, 2022, Form Creation & Validation

- HTML Forms
- HTTP POST and GET methods
- Validating HTML forms
- RegEx

Assignment due midnight 11/8/22
Reading Quiz 8: Persistence
Assignment 5 - Add shopping cart and checkout pages
Reading:
Nixon text: Chapter 12

Week 10, November 9, 2022, Creating Persistence on the Web

- Use of cookies
- Session Control

Assignment due midnight 11/15/22
Reading Quiz 9: Database Access

Project Milestone #3 – Reservation and Confirmation Pages

Assignment due midnight 11/22/22

Assignment 6 - Complete shopping transaction

Reading:

Nixon text: Chapter 10

Week 11, November 16, 2022, Database Access

- PHP Database objects

Assignment due midnight 11/22/22

Assignment 6 - Complete shopping transaction

Reading:

None

Week 12, November 30, 2022, Jeopardy!!

- Let the Games begin

Assignment due midnight 12/6/22

Complete Project

Reading:

None

Week 13, December 7, 2022, Project Presentations

- Project Presentations
- Course Review

Reading:

None

Week 14, December 14, 2022, Final Exam

- Final Exam

NOTES:

The syllabus may be modified to better meet the needs of students and to achieve the learning outcomes.

The School of Professional Studies (SPS) and its faculty celebrate and are committed to inclusion, diversity, belonging, equity, and accessibility (IDBEA), and seek to embody the IDBEA values. The School of Professional Studies (SPS), its faculty, staff, and students are committed to creating a mutually respectful and safe environment (*from the SPS IDBEA Committee*).

New York University School of Professional Studies Policies

1. Policies - You are responsible for reading, understanding, and complying with University Policies and Guidelines, NYU SPS Policies and Procedures, and Student Affairs and Reporting.

2. Learning/Academic Accommodations - New York University is committed to providing equal educational opportunity and participation for students who disclose their dis/ability to the Moses Center for Student Accessibility. If you are interested in applying for academic accommodations, contact the Moses Center as early as possible in the semester. If you already receive accommodations through the Moses Center, request your accommodation letters through the

Moses Center Portal as soon as possible (mosescsa@nyu.edu | 212-998-4980).

3. Health and Wellness - To access the University's extensive health and mental health resources, contact the NYU Wellness Exchange. You can call its private hotline (212-443-9999), available 24 hours a day, seven days a week, to reach out to a professional who can help to address day-to-day challenges as well as other health-related concerns.

4. Student Support Resources - There are a range of resources at SPS and NYU to support your learning and professional growth. For a complete list of resources and services available to SPS students, visit the NYU SPS Office of Student Affairs site.

5. Religious Observance - As a nonsectarian, inclusive institution, NYU policy permits members of any religious group to absent themselves from classes without penalty when required for compliance with their religious obligations. Refer to the University Calendar Policy on Religious Holidays for the complete policy.

6. Academic Integrity and Plagiarism - You are expected to be honest and ethical in all academic work. Moreover, you are expected to demonstrate how what you have learned incorporates an understanding of the research and expertise of scholars and other appropriate experts; and thus, recognizing others' published work or teachings—whether that of authors, lecturers, or one's peers—is a required practice in all academic projects.

Plagiarism involves borrowing or using information from other sources without proper and full credit. You are subject to disciplinary actions for the following offenses which include but are not limited to cheating, plagiarism, forgery or unauthorized use of documents, and false form of identification

Turnitin, an originality detection service in NYU Brightspace, may be used in this course to check your work for plagiarism.

Read more about academic integrity policies at the NYU School of Professional Studies on the Academic Policies for NYU SPS Students page.

7. Use of Third-Party Tools - During this class, you may be required to use non-NYU apps/platforms/software as a part of course studies, and thus, will be required to agree to the “Terms of Use” (TOU) associated with such apps/platforms/software.

These services may require you to create an account, but you can use a pseudonym (which may not identify you to the public community, but which may still identify you by IP address to the company and companies with whom it shares data).

You should carefully read those terms of use regarding the impact on your privacy rights and intellectual property rights. If you have any questions regarding those terms of use or the impact on the class, you are encouraged to ask the instructor prior to the add/drop deadline.