



# Metropolitan College

## Computer Science Department

### CS602 | Server-side Web Development | On Campus

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Office hours by appointment.

**Class Location:** 750 Commonwealth Avenue; [EPC 206](#)

*Please contact me before or after class if we need to meet.*

### Course Description

The Server-Side Web Development course concentrates on building web applications using Php and Node. Using Node and Php with MySQL and MongoDB will also be taught.

The course is divided into modules that cover Object-oriented design and development using PHP and Node. Other topics such as: best practices in Security and how to design your applications using Microservices will also be discussed.

After you complete both MET CS 601 and MET CS 602, students should be confident in their skills as a full stack web application developer.

### Books

"Practical Node.js - Building Real-World Scalable Web Apps. 2nd Edition" \*Optional

Author: Azat Mardan | ISBN: 1484230388 | [amzn.to/2FiFkBA](https://amzn.to/2FiFkBA)

"PHP & MySQL: Novice to Ninja" 7th Edition \*Optional

Author: Tom Butler | ISBN: 9780994346988 | <https://a.co/d/0dkkzQmw>

### Courseware

All material and interactions will use BU/Blackboard. Sign on required. The link is:

[onlinecampus.bu.edu](https://onlinecampus.bu.edu)

### Academic Calendar

Please know the academic calendar and the details therein: <https://www.bu.edu/reg/calendars/>

### Class Policies

- Homework will not be accepted after its due date unless the student has a very good reason that the Professor accepts.
- If you miss a quiz it cannot be rescheduled or made-up. Quizzes are random and must be completed on the day and time it is administered.
- Attendance is part of your grade. I do watch for whom shows up and participates in class. If you

never show up in class and I have no record or recollection of talking with you in class or in emails, it will be taken into consideration during grading.

## Academic Conduct Code

Cheating and plagiarism will not be tolerated in any Metropolitan College course. They will result in no credit for the assignment or examination and may lead to disciplinary actions. Please take the time to review the Student Academic Conduct Code:

[http://www.bu.edu/met/metropolitan\\_college\\_people/student/resources/conduct/code.html](http://www.bu.edu/met/metropolitan_college_people/student/resources/conduct/code.html)

This should not be understood as a discouragement for discussing the material or your particular approach to a problem with other students in the class. On the contrary, you should share your thoughts, questions and solutions. Naturally, if you choose to work in a group, you will be expected to come up with more than one and highly original solutions rather than the same mistakes.

## Grading Criteria

- Homework/Laboratories/Quizzes: 20%
- Midterm Examination: 35%
- Term Project: 10%
- Final Examination: 35%

## Class Schedule

Week #	Tuesday's	Topics	Milestones	Readings
Week 1	Sept-3	<ul style="list-style-type: none"><li>• Course Introduction</li><li>• High Level Review: package.json</li><li>• Code Node Modules: Process and File System</li><li>• Introduction to Node</li><li>• Configuring your Laptop/Workstation</li></ul>	<b>Workstation Setup &amp; Configuration</b>	Mardan: 1
Week 2	Sept-10	<ul style="list-style-type: none"><li>• Introduction to the Php Language</li><li>• Using Superglobals with PHP</li><li>• Express with Node</li><li>• Routing with Node</li></ul>	<b>Term Project Concept Submitted For Review</b>	Butler: 2 Mardan: 2
Week 3	Sept-17	<ul style="list-style-type: none"><li>• Readable Streams with Node</li><li>• Events and the EventEmitter (Node)</li><li>• Php Data Structures</li><li>• Using Composer with Php</li></ul>	<b>Submit Initial Wireframes</b>	Mardan: 1 Bulter: 2
Week 4	Sept-24	<ul style="list-style-type: none"><li>• Laravel Framework - Php</li></ul>		Mardan: 2 Bulter: 6

Week #	Tuesday's	Topics	Milestones	Readings
Week 5	Oct-1	<ul style="list-style-type: none"> <li>•Node: Using Socket.io</li> <li>•Php: Using Ratchet</li> </ul>		Php: <a href="http://socketo.me">http://socketo.me</a> Mardan: 9
Week 6	Oct-8	<ul style="list-style-type: none"> <li>• Fundamentals of MongoDB with Node</li> <li>• Database Access with PDO and Php</li> </ul>	<b>Submit Work In Progress</b>	Mardan: 5
Week 7	Oct-15	(No Class) Substitute Monday Schedule of Classes		
Week 8	Oct-22	Midterm Examination		
Week 9	Oct-29	• Developing Rest API's	<b>80% Complete on Project</b>	Mardan: 8
Week 10	Nov-5	• Topics and Best Practices in Security		Mardan: 6
Week 11	Nov-12	• Using SMS with Web Applications		<a href="#">Twilio</a> <a href="#">Telesign</a>
Week 12	Nov-19	• Testing strategies and frameworks	<b>Testing Phase: 90%/100% Complete</b>	Mardan: 3 <a href="#">PHPUnit</a>
Week 13	Nov-26	• Building a Book Store with Node, Mongo and HTML		
Week 14	Dec-3	Project Presentations and Review		
Week 15	Dec-10	Final Examination		