

MAHARISHI INTERNATIONAL UNIVERSITY



**CS572**

**Modern Web Applications:  
Life is Structured in Layers**

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Associate Professor  
Najeeb W. Najeeb, PhD

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## MODERN WEB APPLICATIONS: Life is Structured in Layers

Associate Professor N. W. Najeeb, PhD

### SYLLABUS

“The effect was mistaken for the cause. Right action came to be regarded as a means to gain Nirvāṇa, whereas right action is in fact the result of this state of consciousness in freedom.”

— Maharishi Mahesh Yogi, Maharishi Mahesh Yogi on the Bhagavad-Gita: A New Translation and Commentary with Sanskrit Text --(page 3) Chapters 1 to 6

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### GOAL OF THE COURSE

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Learning the concepts involved and gaining experience with using full-stack development in Single Page Application (SPA) web applications and observing the connection between the layers of full-stack development and one's full experience of the layers of life.

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### STUDENT LEARNING CHART

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<b>OBJECTIVES</b> This is what you'll learn to do*	<b>LEARNING ACTIVITIES</b> This is how you'll learn it	<b>ASSESSMENTS</b> This is what will show you've learned it
1. Identify the components of Full-Stack development, SPA, and how they relate. <b>[5]</b>	By paying attention in class. Also, participating in Concept Map activity.	Quizzes (multiple choice), assignments (T/F), and a written test (short answer).
2. Conclude the strengths and weaknesses of Full-Stack development and SPA. <b>[4, 5]</b>	By engaging in class discussions and in-class group activities.	Homework assignments, and written tests.
3. Construct data storage models to match an application's needs. <b>[4, 7]</b>	By designing a web application for a hobby of your interest. Also, by using Mongo Shell and VS-Code.	Weekend project assignment, and web application programming test.

4. Implement a Full-Stack SPA and structure your code for ease of maintenance and reuse. <b>[7]</b>	By participating in class activities and developing a Full-Stack application from a given set of requirements. Also, by using tools such as VS-Code, npm, and CLI.	Full-Stack SPA programming test (write a program from scratch).
5. Translate a legacy web application to its contemporary counterpart. <b>[7]</b>	By participating in coding sessions and completing homework assignments.	Programming assignment to translate a legacy (AngularJS) application to a modern (Angular) version.
6. Debug silent and flagged errors. <b>[7]</b>	By writing code from scratch each day, helping classmates, and experimenting with different approaches and concepts in your IDE.	Debugging test (you are given a full program that is not working, and you need to get it to work).
7. Connect web development topics with the STC concepts as well as the development of your consciousness. <b>[1]</b>	By regularly practicing TM and connecting the daily covered topics with your STC knowledge and experience using in-class appealing point exercises.	Attend the TM Checking and attempting an STC question on the written test (connect an STC point to a point from the course).

\*The numbers in parentheses refer to the MIU Essential Learning Outcomes that are best supported by this course objective. They appear in **boldface** in the list below.

**1. Development of consciousness**

2. Health

3. Holistic thinking

**4. Creativity**

**5. Critical thinking**

6. Communication

**7. Problem solving**

8. Teamwork and leadership

9. Local and global citizenship

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## OFFICE HOURS, CONTACT INFORMATION, AND BIOGRAPHICAL SKETCH

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DR. N. W. Najeeb

- Email: [najeeb@miu.edu](mailto:najeeb@miu.edu)
- Phone: 641-472-7000 ext4325 (office)
- Office: McLaughlin – Room 221
- Office hours: Mondays 3:15 – 4:15

I got my PhD from University of Nebraska Lincoln in Robotics. I have worked on drones, and self-driving cars. My professional experience started with developing print press publishing software using C++, then moved on to web-development using Java, Database driven applications using SQL and ORMs. I teach courses on web development in Java and JavaScript, Parallel Programming, and Big Data.

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## TEXTS AND OTHER REQUIRED CLASS MATERIALS

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Currently we will not be using a textbook for the course. You will depend on the lectures, and use the official websites for each technology.

[mongodb.com](http://mongodb.com)  
[expressjs.com](http://expressjs.com)  
[angular.io](http://angular.io)  
[nodejs.org](http://nodejs.org)

**MAHARISHI INTERNATIONAL UNIVERSITY**  
**CS572**  
**Modern Web Applications: Life is Structured in Layers**  
*Knowledge, Action, Achievement, leads to Fulfillment*  
**Course Overview Chart**

WEEK		MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<b>WEEK ONE</b> <b>THEME I:</b> <b>Backend:</b> <b>The Unmanifest value of Creative Intelligence</b>	<b>A</b>	0. Introduction and Overview. Demo MEAN Games	Lesson 1. http module: <i>Every action has a reaction.</i>	<i>Lesson 1: Express query strings and POST data</i>	<i>Lesson 2: Add MongoDB using driver to MEAN Games.</i>	Lesson 3: Mongoose Schema	Lesson 3: API Hardening & CRUD.
	<b>M</b>	Lesson 1. Node Platform: <i>The selective nature of UF.</i>	Express Start the MEAN Games application.	Lesson 2. Introducing NoSQL-DBs, MongoDB: <i>Structure is everywhere</i>	Lesson 3. Mongoose: <i>Do less accomplish more</i>	Lesson 3. Mongoose GeoSearch	Work on your Personal Hobby Project (PHP).
	<b>Ev</b>	<i>Homework 1: Node Fibonacci.</i>	<i>Homework 2: Express app.</i>	<i>Homework 3: MongoDB app.</i>	<i>Homework 4: Mongoose app.</i>	<i>Homework 5: Concept Map.</i>	<i>Work on your PHP backend.</i>
<b>WEEK TWO</b> <b>THEME II:</b> <b>Frontend: The Manifest value of Creative Intelligence</b>	<b>A</b>	Weekly Review Discuss students concept maps.	Lesson 4. TypeScript: <i>Spontaneously correct.</i>	Lesson 4. Angular SPA: <i>Self-Referral Nature of CI.</i>	Lesson 5. MEAN Integration:	Review of the week and in class Concept Maps.	<b>Programming Test</b>
	<b>M</b>	Introducing Angular	Go over a simple Angular application	Adding Angular to MEAN Games	Custom Directives, putting everything together	Continue working on Practice Project.	Work on your PHP frontend.
	<b>Ev</b>		Homework 6: Simple Angular App	Homework 7: Angular SPA	Homework 8: Full Integration	Practice Project: MEAN stack app	Work on your PHP integration.
<b>WEEK THREE</b> <b>THEME III:</b> <b>Inside Frameworks:</b>  <b>Knowledge is Structured in Consciousness</b>	<b>A</b>	Lesson 5. Authentication: <i>Prevent the birth of an enemy.</i> <b>TM CHECKING</b>	Lesson 6. Inside Node: <i>Knowledge is structured in consciousness.</i>	Lesson 7. Inside Chrome: <i>Take the right angle and let go.</i>	Lesson 9. Full-Stack Architecture: <i>Life is structured in layers.</i>	Lesson 10. Replication & Sharding, <i>the nature of life is to grow.</i>	Review of the Week Discuss students concept maps.
	<b>M</b>	Adding authentication to MEAN Games	Parallelism vs Concurrency vs Asynchronous		Exercise on when to use what.	Exercise on architecture	Prepare for written test
	<b>Ev</b>	Homework 9: Practice Project: MEAN stack app	Homework 10: Promises	Homework 11: Angular	Homework 12:	Homework 13: Concept Maps	Prepare for written test.
<b>WEEK FOUR</b> <b>THEME IV:</b> <b>Translation: Unity in Diversity</b>	<b>A</b>	<b>Written Test</b>	Lesson 8: REST API		<b>Debugging Test</b>		
	<b>M</b>	Going over the written test.			<b>End-of-Course Feedback</b>		
	<b>Ev</b>				<b>Celebration!</b>		

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## EVALUATION PLAN

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Your class grade represents your performance on the course objectives as measured by assignments and exams, as well as your classroom participation, as measured by attendance and punctuality and participation.

### How are grades calculated?

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Attendance & Participation ..... 10 points  
 Homework..... 0 points  
 Personal Hobby Project..... 15 points  
 Programming Test 1..... 15 points  
 Programming Test 2..... 15 points  
 Written Test ..... 25 points  
 Debugging Test ..... 10 points  
 Meditation & TM Checking & STC Essay.. 10 points  
 Total ..... 100 points

### What do grades mean?

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<b>A</b>	96–100+	Excellent	Meets the course objectives at an exceptionally high level
<b>A-</b>	91-95		
<b>B+</b>	88–90	Good	Meets the course objectives at the expected level
<b>B</b>	84-87		
<b>B-</b>	81-83		
<b>C+</b>	78–80	Fair	Meets the course objectives at a basic level
<b>C</b>	74-77		
<b>C-</b>	71-73		
<b>NC</b>	below 71	No credit	Does not meet the course objectives

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## REVIEW ACTIVITY

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**We'll frequently use the following activity at the end of a class to review the lesson:**

- At the end of the lesson, please write down in your own words what you think is the lesson's most important point. (one sentence)
- Relate this main idea to the growth of your own creative potential or the knowledge of full development of consciousness you've gained. (one sentence)
- Draw a diagram or illustration that integrates the two points.
- One participant: Draw your picture on the board and present your review to the class. Others: Share your review with a neighbor.



### Holistic Rubrics for Evaluating 3 ELOs: Holistic Thinking, Critical Thinking, and Writing

	<b>4 pts – Advanced</b> (capstone courses & senior projects)	<b>3 pts – Proficient</b> (intermediate courses)	<b>2 pts – Progressing</b> (introductory courses)	<b>1 pt – Beginning; 0 pts – Missing</b> (college entry)
<b>Holistic Thinking</b>	The work identifies a common principle operating in analogous ways in different disciplines or subject areas. The expression of the principle shows a broad and deep familiarity with the Science and Technology of Consciousness. It connects disciplinary content to personal experience in and out of meditation; to the world outside of college; and to the author's own development of higher states of consciousness. The work shows the beginning of one unified view of the modern disciplines, Maharishi Vedic Science, and personal experience.	The work identifies patterns within content and expresses these patterns in terms of a more limited range of STC principles taught in previous courses. These unifying principles are explained in terms of their own experience of meditation and in terms of the benefits of regular meditation practice. They can use unifying principles to relate what they learn in the context of classroom study to the world of practical experience outside of class.	The work is brimming with the anticipation of unifying patterns and principles, such that, with guidance, students can find similar patterns in more than one content area and with support can connect these patterns to daily experience. Their work occasionally expresses these patterns as unifying principles, but not consistently or precisely, and only sporadically to STC. It shows an understanding that classroom content can be applied outside the classroom, but does not show actual evidence of doing so.	The work recognizes the idea of interdisciplinary principles, but has not had sufficient opportunities to discover or apply them to disciplinary content. It makes reference to some of the 16 SCI principles with relation to their own meditation and in terms of daily life, and in relation to academic content. The connection between content and these principles is unclear, superficial, and/or forced. Academic content remains largely siloed in the academic disciplines, with their separate methodologies and languages.
<b>Critical Thinking</b>	The reasoning is clear, logical, evidence-based, and demonstrates a solid grasp of relevant disciplinary knowledge. Sources are selected and assessed according to their relative authority in the discipline. Assumptions (including one's own) and alternative points of view are fair-mindedly examined within their larger contexts. The thinking develops diverse ways — known and original — of seeing and solving an issue.	The reasoning is clear, logical, and evidence-based. Sources are selected for their credibility, with some awareness of their relative authority in the discipline. Assumptions (including one's own) and alternative points of view are fair-mindedly acknowledged. The thinking explores diverse ways — known and original — of seeing and solving an issue.	The reasoning is mostly clear, with only minor logical gaps. Major claims are backed by evidence, but some minor statements are unsubstantiated. Sources are identified with some awareness of their credibility. Some assumptions are identified but one's own are taken as fact. The value of examining them fair-mindedly is recognized. The thinking acknowledges diverse, known ways of seeing and solving an issue.	The reasoning is unclear or contains logical gaps. Major claims are unsubstantiated. There are few or no attempts to verify the accuracy of evidence or the credibility of sources. Shows an emerging awareness of assumptions. Alternative points of view are downplayed; there is low tolerance for positions that differ from one's own or those of one's group. The overall approach is fairly one-sided.

	<b>4 pts – Advanced</b> (capstone courses & senior projects)	<b>3 pts – Proficient</b> (intermediate courses)	<b>2 pts – Progressing</b> (introductory courses)	<b>1 pt – Beginning; 0 pts – Missing</b> (college entry)
<b>Writing</b>	This writing demonstrates a thorough understanding of context, audience, and purpose that is responsive to the assigned task throughout the work. It organizes with some subtlety appropriate, relevant, and compelling content to fulfill this purpose. It shows mastery of the evidence and conventions appropriate to the discipline in which it is written and has a graceful command of language that is virtually error-free.	This writing demonstrates an adequate consideration of context, audience, and purpose together with a focus on the assigned task. It organizes without strain appropriate and relevant content to explore ideas that address its purpose. It demonstrates awareness of the evidence and conventions appropriate to the discipline in which it is written, while not always able to summon the most convincing evidence. It displays a straightforward use of language that conveys its meaning without vagueness or ambiguity and has only a few errors.	This writing demonstrates awareness of context, audience, and purpose in the context of the assigned task. It organizes, sometimes a bit clumsily, appropriate and relevant content to develop and explore ideas through most of the work. It attempts, not always successfully, to use credible and/or relevant ideas that are appropriate to the discipline and genre of the writing. It uses language that generally conveys meaning to readers with clarity, although writing may include errors and ambiguities.	While initially addressing the assigned task, the writing may show minimal attention to context, audience, and purpose, and may not complete the assigned task. It develops content that is relatively simple, general, or ill-defined. It attempts to use a consistent system for basic organization, but is not yet aware of genres or disciplinary conventions. There are enough errors in syntax and usage to impede meaning and undermine credibility.

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## DAILY SCHEDULE

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On Monday–Friday, classes begin at 10:00 a.m. and end at 3:15 p.m. with an hour for lunch. On Saturdays, class meets from 10 AM to noon. For more detail, please see the recommended daily schedule below.

This daily schedule of all courses is designed to help you master specific fields of knowledge while also cultivating higher states of consciousness for success and fulfillment in life.

The more rested you are, the more you'll learn. I recommend you aim to be in bed by 10:00 p.m., so you're rested and fresh each morning. If you haven't finished your homework by then, then instead of staying up late to finish it, get a good night's rest and finish it in the morning before class.

You are also encouraged to participate in physical activity daily.

<b>MORNING</b>	
	Group program for meditators and Sidhas
10:00 AM – 11:40 AM	Class lecture, discussion, activities, labs
11:40 – 12:00 Noon	In-class group practice of the Transcendental Meditation program
12:00 – 1:00 PM	Lunch and walk
<b>AFTERNOON</b>	
1:00 – 2:45 PM	Continuation of morning class, projects, exercises in-class reading, labs
2:45 – 2:50 PM	Stretch break
2:50 – 3:15 PM	In-class group practice of the Transcendental Meditation program for Meditators and Rising Sidhas
3:00 – 4:30 PM	Group program for Sidhas
<b>EVENING</b>	
	Dinner
7:00 – 9:00 PM	Homework (2 hours per evening)
9:30 PM	Rest

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## COURSE POLICIES

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The following list of policies is meant to remind you of the policies in effect for this course. Most of these policies are University-wide policies that are explained in more detail in either the Student Handbook or the University Catalog's Academic Policy section, available online at <https://students.miu.edu/student-handbook> or <https://students.miu.edu/catalog> . If you are unsure how a policy works, feel free to discuss it with me after class.

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### Development of consciousness component for each class

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The Development of Consciousness component in each class includes:

- A 15-minute group meditation in the classroom before lunch, Monday–Saturday.
- At the end of class Monday–Friday:
  - **Meditators** stay for a 20-minute group meditation with class. This is part of each class — five group meditations per week. *Late minutes will be monitored for anyone who doesn't stay.*
  - **Sidhas** are excused at 2:45 pm to attend early or evening program in the Domes or flying halls on campus at least 5 times a week. This is part of the homework for each class.
- A group TM-checking before lunch sometime during the course.

All students are encouraged to do their 20-minute morning meditation each day before they come to class. One option is to attend the group meditation in Dalby Hall before breakfast. The 15-minute group meditation before lunch is a special bonus available to students here. Students who practice the TM-Sidhi program are encouraged to join group practice in the Golden Domes as often as possible.

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### Attendance

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Students are expected to attend all class sessions. Much of the value of a university course comes from experiences you have in the class, which cannot be fully evaluated through quizzes, papers, or exams. For this reason, attendance is highly valued at MIU.

Absences may be categorized as excused or unexcused:

- An *excused absence* is defined as an absence due to illness or family emergency *or other circumstances beyond the student's control*. In this case, you are responsible for all

readings and assignments whether you are able to attend class or not. In the interest of efficiency, please arrange to find out adjustments in assignments and other announcements from other classmates rather than from me, if possible. I will be happy to give you any handouts you missed while absent.

- All other absences are *unexcused*. Repeated unexcused absences are a violation of the MIU Code of Student Behavior. In addition to academic consequences, students with repeated unexcused absences are subject to disciplinary actions.

### **Consequences of absences**

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- Unexcused absences may result in a reduction in your course grade by 3 percentage points for each session missed (morning or afternoon).
- If you miss more than 6 sessions of a standard 4-unit course, it's likely that you won't have completed enough of the coursework to be eligible for course credit. If the absences are excused, you may request a grade of WH, and when you feel better, you may audit the rest of the course. If the absences are unexcused, you will be dismissed from the course and will receive a grade of NW.

### **Contact me before class if you will be absent**

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- Please schedule appointments for outside of class time.
- In the rare event you must miss class or are sick, please contact me as soon as possible (contact information above) or send a message with a friend. If you keep me informed, I will know how you're doing and how to plan for each class.
- If you miss class without notifying me, I will assume the absence is unexcused.

### **Punctuality**

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Students are expected to arrive on time, just as in the professional world. We ask that you arrive a couple minutes early, so everyone is seated and settled when the class begins. Punctuality also extends to returning from lunch and breaks on time.

### **Consequences of arriving late or leaving early**

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A class grade may be reduced by one percentage point for every 20 cumulative minutes late (up to two points per session). This policy also applies to leaving class early.

**NOTE — If you do arrive late**, please look for the Attendance/Punctuality Registry posted in the classroom to record your late minutes (with academic honesty).

## Turning in Assignments Late

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**Late homework** (department policy) — Unless illness or family emergency prevents you from turning in work, you need to hand in all assignments on the day they're due. You may turn in homework one day late for a reduced grade, but not after that. Please do not turn in assignments after the end of the course without prior arrangement (see "Incomplete work" below).

### "Incomplete work" at the end of the course

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At the end of the course, I'll evaluate the work you've turned in according to the grading or evaluation plan announced at the start of the course. If you weren't able to complete assigned work by the end of the course *due to illness, family emergency, or other circumstances beyond your control*, you may petition me to turn in that work late for credit using a "Late Work Contract" (available at the Enrollment Center or downloadable from the MIU website – search "Late Work Contract.") For further details, please see the MIU Catalog under "Late Work Policy" in "General Policies."

## Academic honor code

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Personal integrity, honesty, and honor are essential qualities of a capable student, a good citizen, and a developing leader. Our Academic Honor Code sets forth the standards of academic honesty and personal integrity expected of all students for all writing assignments and exams. Abiding by the Academic Honor Code will also help you avoid questions of academic impropriety. For the full Honor Code, see the MIU Catalog and Student Handbook.

## Computers, cell phones, and other devices

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Please turn off all cell phones at the start of class, to avoid disruptions. We'll discuss when classroom use of computers is appropriate.

## Promoting respectful classroom interaction

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We enjoy a uniquely harmonious and supportive atmosphere at MIU. We honor diversity of every kind, including diversity of culture, ethnic, religion, race, gender and sexual orientation, and viewpoint. We do not tolerate racism, harassment, or abusive or disrespectful language or behavior. While we welcome all points of view, we ask that you maintain an open and supportive attitude toward your fellow classmates and university staff.

## Standards of appearance

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The faculty seek to create a coherent, focused, and dignified atmosphere on campus and in the classroom that supports the gaining and applying of knowledge. We ask that you dress in keeping with this purpose. This means:

- Neat and dignified clothing, appropriate to the occasion.
- Torn, stained, and sloppy clothing is not appropriate.
- Immodest or revealing clothing is not appropriate.

## Dropping or withdrawing from a course

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In the event that you need to withdraw from this course, the following policies apply. More details can be found in the *MIU Student Handbook*.

- If you drop the course by 4 PM of the second day of the course, you will not receive a grade, and the course will not appear on your transcript.

If you withdraw from the course *after* 4 PM of the second day of the course, you will need to obtain a Drop/Withdrawal Form from the Enrollment Center, fill it out, collect the appropriate signatures, and submit the completed form to the Enrollment Center.

If you live on campus, you will also need to meet with the Associate Dean of Students to discuss your plans for the block. It may also be advisable for you to speak with the Financial Aid Office to make sure that withdrawing will not adversely affect your financial aid award.

- If you withdraw from the course by 4 PM of the second Monday of the course, *and you turn in the required form with the required signatures*, you will receive a "W" grade on your transcript.
- If you need to withdraw from the course after 4 PM on the second Monday of the course, it must be for illness, family emergency, or other circumstances beyond your control, and you must have been otherwise passing the course at the time of the withdrawal. In this case, you will receive a "WH" grade on your transcript.
- If you stop attending the course but do not complete the required form for withdrawing, or if you miss the deadline for withdrawing, you will receive a grade of "NW".
- NOTE: *You may withdraw from only one course per semester.*

## Exam Questions and Grading

*Faculty members have discretion to handle exams as best fits their course. Exams provide an important opportunity for students to review and integrate and demonstrate their mastery of the course material. Faculty are encouraged to go over solutions to midterm exams with students so they can learn from any questions they might have missed. Reviews of final exams are also encouraged if faculty can arrange for that at the end of the block or beginning of the next block. Faculty may return exam papers to students for review at their discretion. Students may request regrading of questions on their exam. It is rare that more than one or two questions have grading issues. Requests should not be made in a general attempt to garner more points on an exam (“point fishing”).*

*If faculty members review an exam, it is possible that points could be increased or decreased upon closer examination. If an exam is reviewed for scoring accuracy faculty are encouraged to review the entire exam and correct any points that might have been missed—either adding or removing points as appropriate.*

*To ensure maximum accuracy of reviews, students should write their request and identify the specific question they want re-graded and provide a cogent justification for each request. They should give a rank-order priority for their requests—most to least important. The faculty member will review each request if the requests have merit and justify a change. If multiple requests do not have merit the faculty member will not continue to review additional requests. Faculty are expected to provide this service to their students. Students are expected to make their requests in a professional manner and to be respectful of faculty decisions.*

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## END-OF-COURSE FEEDBACK

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Please give us your feedback about the course. Near the end of the course, you should receive an email from Dr. Marie Loiselle, Director of Evaluations, which gives you a one-step login link. If you do not receive this email, you can request access by emailing Dr. Loiselle at [evaluations@miu.edu](mailto:evaluations@miu.edu) or go to [Smartevals.com](https://smartevals.com) and log in there.

- Your Username: your student ID in 000-00-0000 format.
- Your Password: your birth date in MM/DD/YY format.

### How it works

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1. The information that you fill in on the online form is collected and sorted by an outside company, Gap Technologies
2. Gap Technologies prepares a report for each class that averages the numerical scores and lists your text responses anonymously.



3. Your instructor receives the report only after turning in grades. In other words, your comments remain anonymous.

**We're committed to continuous improvement of the curriculum. We value and need your feedback.**

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## SERVICES

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### Student Support Services

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In addition to the normal support you'll receive from me and your classmates, you can take advantage of extensive on-campus support services for both academic and personal support you may need at any time.

To access these services, please stop by the Student Life department (Dreier 105) between 10 a.m. and 4 p.m., Monday–Friday, or call the department administrator at 641-472-1225 for referral to the appropriate person.

### Writing Center

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This is an especially valuable resource for all students, for anything you may be writing.

- Location — Arts Center room 116.
- Hours — Monday–Friday 3:30 p.m. to 6:00 p.m. or by appointment.

To schedule a writing consultation, please stop by or email [writingcenter@miu.edu](mailto:writingcenter@miu.edu). For questions, comments, concerns, or further information, please contact Ben McClendon at [bmccclendon@miu.edu](mailto:bmccclendon@miu.edu)

## LESSON 2: Introducing NoSQL-DBs, MongoDB

*Order is Present Everywhere*

### WHOLENESS OF THE LESSON

Data is the center of your application. The way data is presented impacts how it should be stored. Designing data storage to match its presentation creates more efficient applications. *Science of Consciousness*: The Universe is structured in hierarchical layers from concrete expressions to their abstract basis, life is rich, and nature is efficient because of the underlying universal principles.

### MAIN POINTS

1. MongoDB is a document-based NoSQL database. It is a schema-less database, but each diverse and similar document carries its schema. *Science of Consciousness*: All diverse aspects of nature get unified at the Unified Field level. Everyone can experience the Unified Field.
2. We use MongoDB driver to connect to a MongoDB instance. We need to remember to create the DB connection only once and then use it several times. Also, the connection must be available when needed (since we establish the driver connection asynchronously). These steps may sometimes be tricky and complex. *Science of Consciousness*: In contrast, connecting to the Unified Field is effortless, simple, and easy. You only need a mantra and 20 minutes to connect to the source of knowledge.
3. One best practice when working with MongoDB is to separate the creation of a connection (in a db.js file) from the DB operations (in the controllers). DB operations are asynchronous. So, we deal with results in callbacks. All this results in more efficient performance in database-driven programs. *Science of Consciousness*: Neuroscience, the scientific study of the human nervous system, verifies that efficient performance in activities is more dependent upon the coherent functioning of the brain than it does on education, work experience, and age.<sup>1</sup> TM creates coherent brain functioning.<sup>2</sup>

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1. Travis, Frederick; and Arenander, Alarik. Cross-sectional and longitudinal study of effects of Transcendental Meditation practice on interhemispheric frontal asymmetry and frontal coherence. *International Journal of Neuroscience* 116: 1519–1538, 2006.

2. Travis, Frederick; Grosswald, Sarina; and Stixrud, William. ADHD, brain functioning, and Transcendental Meditation practice. *Mind & Brain, The Journal of Psychiatry* 2: 73–81, 2011.

## UNITY CHART

CONNECTING THE PARTS OF KNOWLEDGE  
WITH THE WHOLENESS OF KNOWLEDGE:

### ORDER IN DATA STORAGE IS THE BASES OF EFFICIENCY

1. The efficiency of a web application depends on the choice of a database and how the database is aligned with the application's user interface.
  2. The enhanced efficiency of database operations in an application depends on the attributes of the underlying framework (In the MEAN stack this means using callbacks and separation of concerns). Because order impacts performance.
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3. Transcendental Consciousness is the state of perfect orderliness.
  4. Impulses within the transcendental field: The Unmanifest impulses in the field of perfect orderliness give rise to all the order present in nature.
  5. Wholeness moving within itself: In Unity Consciousness, we see efficiency arising from the order in nature and realize it to be our own Self.

