MAHARISHI INTERNATIONAL UNIVERSITY

Big Data:

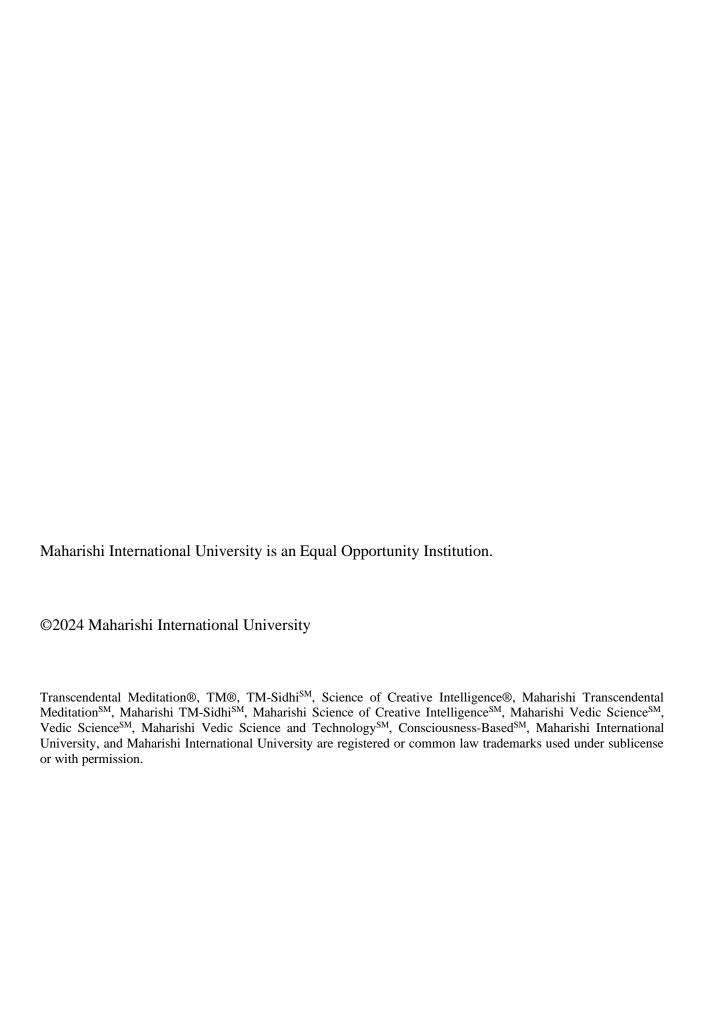### *Knowledge is structured in consciousness*

CS 522

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Maharishi's Seventeenth Year of Invincibility

Global Raam Raj

Maharishi International University is an Equal Opportunity Institution.

SYLLABUS

Goal of the Course

Gain practical hands-on knowledge on Hadoop, MapReduce, Spark, Python, Scala and the advances in Big Data.

COURSE OBJECTIVES, ACTIVITIES, AND ASSESSMENT

This is what you'll learn to do	This is how you'll learn it	This is what will show you've learned it
Read code and explain what the result of its execution would be (3, 5)	By paying attention to all examples and illustrations presented in the class	Homework, Midterm, Final
Distinguish between different algorithms (3, 5)	By writing and analyzing algorithms for various problems	Homework, Project
Establish a single node Hadoop cluster (3, 5)	By doing lab work in the class by exploring resources available in the internet	Project
Design an algorithm using known design principles (3, 5)	By doing lab work in the class by exploring resources available in the internet	Homework, Midterm, Final
Organize data into key value pairs to fit MapReduce Framework (3, 5)	By doing lab work in the class by exploring resources available in the internet	Homework, Midterm, Final
Create a MapReduce and Spark development environment using Eclipse (3, 5)	By doing lab work in the class by exploring resources available in the internet	Project
Explain the connections between the Science of Consciousness And Essentials of Programming (2)	By summarizing each day's lesson in text and illustrating through an example	Short essay exam question

The numbers between parentheses refer to the main Essential Learning Outcomes (ELOs) below (in boldface) that are addressed by each learning objective:

1. Holistic development of consciousness and health.
2. Consciousness-Based understanding
3. Creative thinking and critical thinking

4. Communication

4. Scientific and quantitative reasoning

6. Collaboration and leadership

7. Sustainable local and global citizenship

Office Hours, Contact Information

Dr. Najeeb Najeeb   Email: najeeb@miu.edu

RECOMMENDED Daily Schedule

The daily schedule of all courses is designed to give students mastery of specific fields of knowledge and to cultivate higher states of consciousness for success and fulfillment in life. I recommend that you aim to be in bed by 10 PM, so that you are rested and fresh in the morning. If you have not finished your homework by then, then instead of staying up late to finish it, get a good night's rest and finish your homework in the morning before class.

Weekdays	
	Practice of the Transcendental Meditation and TM-Sidhi program for Citizen Sidhas and Governors
	Make sure you have a healthy meals
	Practicing your CPT or OPT
	Have some rest and exercise each day
	Make sure you get enough sleep
Saturday	
	Make sure you eat healthy meals
	Spend 1-4 hours watching lectures and taking notes
	Spend 1-4 hours performing the assignments
	Practice of the Transcendental Meditation and TM-Sidhi program for Citizen Sidhas and Governors
Sunday	
	Make sure you get enough rest to start your week
	Spend time with family and loved ones
	Spend 1-3 hours on your course

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Big Data:

Knowledge is Structured in Consciousness

	Week 1	Week 2	Week 3	Week 4
Month 1 Knowledge	Lesson 1 Introduction *Transcendental consciousness is the simplest form of awareness*	Lesson 1 (cont'd)	Lesson 2 MapRedce Basics *Spontaneous fulfillment of desires*	Lesson 3 Local Aggregation *Capture the fort*
Month 2 Knowledge, Action	Lesson 3 (cont'd)	Lesson 4 Finding Hidden Patterns *Collapsing Infinity to a Point*	Lesson 4 (cont'd)	Midterm Exam
Month 3 Action	Lesson 5 Order Inversion and Secondary Sorting *Simplification by Expanding the Context*	Lesson 6 Inverted Indexing for Text Retrieval *The three in one structure of the Unified Field*	Lesson 6 (cont'd)	Lesson 7 Bayes Classifier *Awareness through analysis and synthesis*
Month 4 Achievement, Fulfilment	Lesson 7 (cont'd)	Lesson 8 Spark and SparkSQL *Commanding All the Laws of Nature from the Source*	Lesson 8 (cont'd)	Final Examination

Evaluation Plan

Grading components

Midterm Examination	45%
Final Examination	45%
Assignments	5%
Quizzes	5%

Meaning of grades

A (95–100)   Excellent, exceptional

A- (90–94.9)   Excellent

B+ (85–89.9)   Very good comprehension of course concepts and proficiency in course competencies

B (80–84.9)   Good comprehension of course concepts and proficiency in course competencies

B- (75–79.9)   basic comprehension of course concepts and proficiency in course competencies

C (60–74.9)   Fair — meets minimal expectations for passing

NC (below 60)   No credit — did not attain course objectives at a minimal level

Texts and Other Class Materials

Data-Intensive Text Processing with MapReduce

Jimmy Lin and Chris Dyer

END OF Course EVALUATION

Please give us your feedback about the course. You should be receiving an email from Dr. Raul Calderon at evaluations@mum.edu near the end of the course that will give you a one-step login link. If you do not get this email, you can also go to Smartevals.com/mum and log in there.

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

Course Policies

The following list of policies is meant to remind you of the policies in effect for this course. Most of these are University-wide policies explained in more detail in the University catalog, available online at www.mum.edu/catalog. If you are unsure how the policy works, feel free to discuss it with me after class.

Late homework (department policy) — Unless you are ill or prevented from turning in work by a family emergency, all assignments should be handed in on the day they are due. You may turn in homework one day late for a slightly reduced grade, but not after that. Please do not turn in assignments after the end of the course without prior arrangement (see "Incompletes" below).

Punctuality and attendance — Much of the value of a university class lies in the experience you have in class. For this reason, punctuality and attendance are highly valued at M.U.M. A class grade will be reduced at the rate of one percentage point for every 20 cumulative minutes late (up to two points per session), and three percentage points for an unexcused absence for a whole session (morning or afternoon).

NOTE: If you arrive late, please mark the number of minutes late on the Lateness Registry that is posted in the classroom.

Punctuality also extends to returning from the class break in a timely fashion (after 5 minutes). I should not need to go out and round up students.

An excused absence is defined as absence due to bona fide illness or family emergency. You are responsible for all readings and all written assignments whether you are able to attend class or not, and, 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.

Repeated unexcused absences are a violation of the M.U.M. Code of Student Behavior. In addition to academic consequences, students with repeated unexcused absences are subject to disciplinary actions.

Contact me — In the rare event you must miss class or are sick, please contact me as soon as possible using the contact information above (email or phone) or send a message or note to class with a friend. If you keep me informed, I will know how you are doing and how to plan for each class.

Incompletes — Incompletes are given in response to student requests for work that cannot be completed during the course due to illness or family emergency and that does not exceed the equivalent of six sessions of a four-week course. If circumstances should arise during the course that makes you eligible for an incomplete before the end of the course, please contact me immediately.

If I give you an Incomplete, you will have the three days during the weekend immediately following the end of the course to make up that incomplete work. (If you are still sick that weekend, you may request an additional 32 days — that is, the work will be due by the end of the three-day weekend following the next block. If you are granted this incomplete, yet the work is not completed by then, the grade of Incomplete will become a grade of NC.)

Academic Honor Code — Personal integrity, honesty, and honor are essential qualities of a capable student and a developing leader. The University has established an Academic Honor Code that sets forth the standards of academic honesty and personal integrity expected of all students for all writing assignments and exams. This course will be conducted in strict conformity with the Academic Honor Code. you can find the Code and related procedures in the University Catalog at www.mum.edu/catalog. Please familiarize yourself with this code and avoid using others' work without proper citations.

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

- Neat, dignified, and modest clothing appropriate to the occasion is encouraged at all times.

- Torn, stained, and sloppy clothing are not appropriate.

- Immodest or revealing clothing is not appropriate (e.g., mini-skirts).

- Shorts are not appropriate for class, but shorts (other than short shorts) may be worn in the dining hall or while doing class projects outside the classroom when appropriate as determined by the faculty.

- Students from other cultures and traditions are welcome to wear traditional dress, provided the appearance is neat and modest.

Computers, cell phones, and pagers — Please turn off all cell phones and pagers at the start of class, so you will not inadvertently interrupt a lecture or class discussion. *Carrying on extended texting conversations in class is both inappropriate and distracting to your classmates, so please avoid these kinds of behavior.* We will discuss when and under what conditions classroom use of computers is encouraged.

Student Support Services — Beyond the normal support you will receive from me and your classmates, extensive on-campus support services are available for both academic and personal support that you may need at any time. To access these services, please stop by the Student Life Department in Room 105 of the Dreier Building between 10 a.m. and 4 p.m., Monday through Friday, or call Santoria Rush at 641-472-1225 for referral to the appropriate person.

Promoting Respectful Classroom Interaction — Maharishi International University is unique for the level of harmony and mutual support that exists on campus and in its classrooms. In this spirit, we honor cultural diversity as well as diverse backgrounds and viewpoints. While we welcome dialog from, and challenge to, all points of view, we ask that you maintain an open and supportive attitude toward your fellow classmates and University staff, and we do not tolerate harassment in any form.

Midterm and Final Exam Rules and Regulations

1. All materials including backpacks, cell phones, class notes, textbooks and past exams must be left the front of the class. You will not have any access to those items during the exam. **Failure to do so will result in an NC grade.**

2. Proctor will provide standard writing sheets with his/her **signature at the top right-hand corner.** If you ever caught with a piece of **paper without the signature,** that sheet of paper will be treated as an unauthorized material and as such **you will receive NC.**

3. You must bring your own pens, pencils, erasers and sharpeners. You will not be allowed to borrow any item from another student or proctor during the exam.

4. Any form of communication with other students is not allowed during the exam. Every verbal and non-verbal form of communication with another student will result in the loss of one letter grade.

5. In order to get any form of assistance from the proctor, you must raise your hand. No verbal communication is allowed until the proctor gives explicit permission. Failure to do so will result in the loss of one letter grade.

6. Once you leave the exam room, there is no reentry.