

Course Number and Name: MTH 207—Discrete Structures I**Course Coordinator:** Faisal Abu Khzam**Course Co-coordinator:** Chadi Nour**Class Time and Location:** MWF 9h-10h SCI 405**Credits and Contact Hours:** 3.00**Semester:** Fall 2014**Last Revised on:** Feb. 2012

MTH 207

INSTRUCTOR**Name:** Chadi Nour**Email:** cnour@lau.edu.lb**Course Page:** On Blackboard**Office:** Block A, Room 809b, ext. 2403**Office Hours:** MW 10h-12h and TTH 11h-12h**CURRENT CATALOG DESCRIPTION**

This course covers the foundations of discrete mathematics as they apply to computer science. The course is an introduction to propositional logic, logical connectives, truth tables, normal forms, validity, predicate logic, universal and existential quantification, and the limitations of predicate logic. In addition, the following topics are covered: the number system, the Euclidean algorithm, proof techniques, mathematical induction, counting arguments, permutations and combinations, discrete probability and binomial coefficients, sets, functions, relations, matrices, and Boolean Algebra.

COURSE PREREQUISITE/CO-REQUISITE

Sophomore Standing

TEXTBOOK AND REFERENCES

Discrete Mathematics and Its Applications, (6th edition), by Kenneth H. Rosen, McGraw-Hill, ISBN 0072880082

Discrete Mathematics for Computer Scientists (2nd Edition), by J. K. Truss, Pearson, ISBN 0-201-36061-6

COURSE TYPERequired ☒ Elective ☐**COURSE LEARNING OUTCOMES**

CLO1. Students will be able to work with sets, relations, functions, and matrices.

CLO2. Students will be able to prove the validity of a propositional and predicate logic formula using different methods including truth table and formal proofs.

CLO3. Students will be able to use different proof techniques including contradiction and induction.

CLO4. Students will be familiar with Boolean algebra.

Students will be familiar with various counting principles.

STUDENT OUTCOMES ADDRESSED IN THIS COURSE

CLO1 contributes to SLO 1

CLO2 contributes to SLO 1

CLO3 contributes to SLO 1

CLO4 contributes to SLO 1

CLO5 contributes to SLO 1 and SLO 3

COURSE GRADING AND PERFORMANCE CRITERIA

Homeworks+Attendance	5%
Test1	30%
Test2	30%
Final Exam	35%

TOPICS COVERED IN THE COURSE

TOPIC	DURATION
1. Logic	12 hours
2. Number system, methods of proof and induction.	6 hours
3. Counting arguments	3 hours
4. Sets, Relations and Functions	14 hours
5. Matrices	3 hours
6. Boolean Algebra	6 hours
Total	42 hours

ASSESSMENT PLAN FOR THE COURSE

End of semester self-assessment using local or embedded assessment exam.

POLICY ON CHEATING AND PLAGIARISM

Students caught cheating on an exam receive a grade of zero on the exam in their first cheating attempt and receive a warning. Students caught cheating for the second time will receive a grade of "F" in the course and another warning. Plagiarism on assignments and project work is a serious offense. If plagiarism is detected, a student will be subject to penalty, similar to the cheating case, which ranges from receiving a zero on the assignment concerned to an "F" in the course in addition to a warning.

ATTENDANCE POLICY

Missing one third of classes implies that a student has to drop the course.

WITHDRAWAL POLICY

1. A student who withdraws after the Drop/Add period and by the end of the 5th week of classes (10th day of classes for Summer Modules) will obtain a "WI" on that particular course. The student may process such request directly through the Registrar's Office.
2. A student who withdraws from a course between the 6th week and the end of the 10th week of classes (18th day of classes for Summer Modules) will receive either a "WP" or a "WF". "WP" or "WF" will be determined by the instructor based on the achieved academic performance in that course till the time of withdrawal.
3. The "WI" and the "WP" will not count as a Repeat; whereas the "WF" will count as a Repeat.
4. "WI", "WP" and "WF" will not count towards the GPA calculation.
 - WI is equivalent to Early Withdrawal
 - WP is equivalent to Withdrawal/Pass
 - WF is equivalent to Withdrawal/Fail

Deadline for early withdrawal from courses 22-Oct-14

Deadline for late withdrawal from courses 25-Nov-14

COURSE ONLINE EVALUATIONS

Completion of the online course evaluations is required. Students will not be able to access their course grades until they have completed the course evaluations.

