

Course Syllabus

1. Course number and name: 020MADN11 Discrete Mathematics
2. Credits and contact hours: 6 ECTS credits, 3 x 1:15 course hours
3. Instructor's or course coordinator's name: Tony Nicolas
4. Mathématiques tout-en-un MPSI, C. Deshamps, F. Moulin, A. Warusfel, Dunod 2013
5. Specific course information
 - a. catalog description :
Propositional logic - Mathematical reasoning - Sets – Natural numbers, induction - Applications and relations - Sequences and summations - Binomial coefficient and Pascal triangle - Arithmetic – Polynomials and fractions - Complex numbers.
 - b. prerequisites:
 - c. Required/Elective/Selected Elective: Required
6. Specific goals for the course
 - a. specific outcomes of instruction
 - Analyze and resolve logical problems.
 - Determine method to proof properties.
 - Recognize applications and their properties.
 - Manipulate and calculate algebraic expressions.
 - Determine the properties of a relation.
 - Studying the numbers and their properties
 - Manipulate and make calculations on polynomials.
 - Make calculation with complex numbers.
 - b. KPIs addressed by the course.

KPI	a1				
Covered	x				
Assessed	x				
Give Feedback	x				

7. Topics and approximate lecture hours:

- Propositional logic - Predicate logic and quantification - Methods of proof (9 Lectures),
- Sets and applications (8 Lectures)
- Binary relations (5 Lectures)
- Sequences and Summations (4 Lectures)
- Arithmetic (5 Lectures)
- Polynomials and fractions (7 Lectures)
- Complex numbers (4 Lectures)