

MATH & LOGIC

Catalog #10-804-133, Class # 81864

Start Date: 09-08-14 End Date: 12-17-14

INSTRUCTOR INFORMATION:
Instructor: Thom Burke

Office: SC314A

Telephone: (920) 498-6925

Email: thomas.burke@nwtc.edu

Office Hours Green Bay: Mondays & Wednesdays 4:00pm – 4:50pm

Tuesdays & Thursdays 5:30pm – 6:20pm

Office Hours Sturgeon Bay: Tuesdays & Thursday 8:30am – 9:20am

CLASS INFORMATION:

Course Description: This course offers applications of mathematical problem solving techniques from discrete mathematics. Topics will include symbolic logic, sets, algebra, and base number systems. Also heuristic problem solving methods are introduced.

Credits: 3

Class Schedule: Monday & Wednesdays 2:30pm to 3:50pm

Location: SC306

Pre-Requisites: Accuplacer-Arithmetic score=65 or ACT-Math score=15 or 10-834-109,
 Pre Algebra AND Accuplacer-Reading=55 or ACT-Reading=15 or 10-838-105,
 Intro to Reading & Study Skills with "C" or better OR equivalent

Textbooks: Crossing the River with Dogs: Problem Solving for College Students
 By Ken Johnson, Ted Herr and Judy Kysh, 2nd edition

Mathematical Ideas

 By Charles Miller, Vern Heeren, John Hornsby, 12th edition

Calculator: Scientific Calculator, TI-36X or equivalent

Library Resources: Students have access to resources from the physical or virtual Library to complete assignments at <http://www.nwtc.edu/library>

- A pathfinder or resource guide is available for this program at the above site
- Additional materials will be posted on the Library's Electronic Reserves
- For a complete list of materials purchased for this program, type the program code into the Library's catalog

- Supplemental resources are available through the Library; however, none are specifically required for this course

Supplies: Pencils, 3 subject notebook, folder or three ring binder

EMPLOYABILITY SKILLS: An essential set of skills that will enable you to maintain successful and fulfilling employment in today's society. This course addresses the following core abilities:

- Think Critically & Creatively
- Solve Problems Effectively
- Demonstrate Personal Accountability

COMPETENCIES: You have the opportunity to learn the following skills in this course:

1. Solve applied algebraic problems
2. Utilize heuristic tools for problem solving
3. Convert between place value number systems
4. Apply number systems to problem solving
5. Apply principles of set theory
6. Apply symbolic logic principles

RESPONSIBILITIES AND POLICIES:

Student Responsibilities: As a student of NWTC, I expect you to adhere to the policies of the College, as outlined by the Student Handbook (please see below). You are responsible for the duties set forth in this class and to communicate any questions, comments or concerns you have to me. Acceptable means of communication include e-mail, voicemail, or use of online discussion forums. Use of correct grammar and punctuation is required in all written communications. Plagiarism, cheating and collusion are prohibited at NWTC. Students who fail to observe these standards are subject to disciplinary action. Please refer to the NWTC Student Handbook for further definitions and consequences of these behaviors, available through Student Services or on the NWTC webpage at <http://www.nwtc.edu>.

Student Policies: Please refer to the NWTC Student Handbook for further definitions and consequences of these behaviors, available through Student Services, the NWTC Bookstore or by visiting <http://www.nwtc.edu> and click on **Current Students** tab.

Please be fully aware of the following Student Handbook policies:

- Academic Integrity (includes Plagiarism, cheating and collusion)
- Assessment
- Copyright Notice
- Refund Policy
- Student Code of Conduct
- Withdrawal from a Class or Program

Attendance: It is critical for you to attend each class. If you know that ahead of time that you will be missing class, let me know as soon as possible. If you miss class due to a last-minute circumstance, e-mail me so that I can inform you of what you missed in class.

Class Participation: Class participation is essential for success in this class.

Student e-Mail: NWTC offers a student e-mail account for all students. **You are responsible for monitoring your student e-mail account.** Student e-mail can be accessed at <https://web.mymail.nwtc.edu> Student technical assistance is available 24-hours a day, 7-days a week. When help is needed, call toll free: (866)235-5037.

Use of Electronic Devices: *Under no circumstances are laptops, cellular phones or iPods uses acceptable during class. Please keep your iPods, ear pods, laptops, phones, and pagers out of view.*

OTHER POLICIES:

Disability Act Statement: NWTC complies with all provisions of the Americans with Disabilities Act and makes reasonable accommodations upon request. Please contact the Special Needs Office in room SC240 or call 920-498-5444 (920-498-6901 for TTY) for more information regarding the support services available to you.

Student Rights: For additional information regarding your rights as a student, including college policies on harassment, student rights and other services available at NWTC, please consult the NWTC Student Handbook, available through Student Services or on the NWTC webpage at <http://www.nwtc.edu>.

Student Code of Conduct: Students are expected to conduct themselves in accordance with the Student Code of Conduct listed in the Student Handbook. As noted in the handbook, violations will be brought to the immediate attention of the Student Conduct Team and may be referred to the Dean of Student Development or to the Supervisor of Student Involvement. Additionally, in cases where behavior(s) warrants concern over the safety of the student(s), an alert may be made to the Responsive Intervention for Student Concerns (RISC) Committee.

Class Cancellation: Class cancellations will be posted as early as possible at: <http://www.nwtc.edu/Cancel.nsf>

Instructor Responsibilities: As your instructor, I commit to communicating openly and frequently with you about this class. I will maintain a professional, safe learning environment adhering to the policies of the college. You can expect a reply to communication, be it via e-mail, through online discussions, voicemail or in person, within 24-48 business hours.

Syllabus Changes: As your instructor, I retain the right to make changes based on the timeline of the class, feedback from learners and/or logistical issues and will inform you as soon as a change is made.

NWTC Cares about Your Success!

- Throughout the term you may receive emails from Starfish@, a student success project between NWTC and Starfish Retention Solutions. These emails will be regarding your course grades or academic

performance. Please pay attention to these emails and take the recommended actions. These are sent to help you be successful!

- In the message you may be asked to contact your course instructor or a specific campus resource, such as academic coaching, academic advising or counseling. You may also be contacted directly by one of these services.
- You may also receive messages from your instructor recognizing academic achievements, known as “kudos.”
- You can access Starfish via the tab found in Blackboard.

Grading Scale:

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Below 60%	F

Requirements for Math & Logic

Chapter	Description	Timeline
1	Draw a Diagram: Crossing the River with Dogs The Art of Problem Solving: Mathematical Ideas	1 week
	Chapter 1 Assignment	
2	Make a Systematic List: CRD Counting Methods: MI	1 week
	Chapter 2 Assignment	
	Unit Test on Chapters 1 & 2	
3	Eliminate Possibilities: CRD	1 - 2 weeks
	Chapter 3 Assignment	
4	Use Matrix Logic: CRD Intro to Logic (Ch 3): MI	2 weeks
	Chapter 4 Assignment	
	Unit Test on Chapter 3 & 4	
5	Look for a Pattern: CRD	1 week
	Chapter 5 Assignment	
6	Guess and Check: CRD	1 week
	Chapter 6 Assignment	
	Unit Test on Chapter 5 & 6	
7	Identify Sub problems: CRD	1 week
	Chapter 7 Assignment	
11	Work Backwards: CRD	1 week
	Chapter 11 Assignment	
12	Draw Venn Diagrams: CRD The Basic Concepts of Set Theory: MI	1 week
	Chapter 12 Assignment	
	Unit Test on Chapters 7, 11, 12	
13	Convert to Algebra: CRD The Basic Concepts of Algebra: MI	1 - 2 weeks
	Chapter 13 Assignment	
14	Evaluate Finite Differences: CRD	1 week
	Chapter 14 Assignment	
	Unit Test on Chapters 13& 14	

Supplemental Material	Convert between Number Bases: MI Applications of Number Bases: Provided by Program	1 week
	Final Exam	

EMPLOYABILITY SKILLS: You will be evaluated on three of the core abilities of NWTC in this class. See the rubric below.

Measuring **EMPLOYABILITY SKILLS**- Mathematics

In addition to specific job-related training, NWTC has identified **EMPLOYABILITY SKILLS** that are transferable and go beyond the context of a specific course. This will help you reflect on your actions, responsibilities, and behaviors that are important to prepare you to enter the workforce.

You will be assessed using this rubric four times throughout the semester. The following points can be earned for each section and will be added to your overall point total:

2 – All or most of the components of the core abilities are being performed

1 – Some of the components of the core abilities are being performed

0 – None of the components of the core abilities are being performed

EMPLOYABILITY SKILLS	Evidence of Performance of the EMPLOYABILITY SKILLS	Points Earned
Think critically and creatively	<ul style="list-style-type: none"> ___ Sets up problems thoughtfully, applying variables and concepts appropriately ___ Uses various resources when solving problems ___ Estimates a solution to gain a better understanding of a problem before completing a problem ___ Verifies the solution and/or evaluates reasonableness of the solution ___ Is able to extend the concepts learned to a higher level ___ Offers answers, ideas, and comments to problems and questions posed in class ___ Completes all assigned tasks in class and outside of class 	
Solve problems effectively	<ul style="list-style-type: none"> ___ Does assigned homework problems independently ___ Follows directions ___ Uses a calculator effectively ___ Work on problems is neat, organized and set up correctly and follows clear, logical steps ___ Shows all work when solving problems ___ Uses diagrams/pictures to help solve problems ___ Asks questions when necessary and does not dwell on one problem for too long 	
Demonstrate personal accountability A	<ul style="list-style-type: none"> ___ Turns in assignments on time and completed ___ Completes all tests and quizzes in class as scheduled ___ Arrives to every class on time and stays the whole time and comes back from breaks on time ___ Gives advanced notice of missing class for unavoidable situations ___ Submits assignments that are student's own work 	
Demonstrate personal accountability B	<ul style="list-style-type: none"> ___ Comes to class prepared (supplies, book, calculator, etc) ___ Pays attention to what is going on in class ___ Uses computer only when directed by the instructor 	
Demonstrate personal	<ul style="list-style-type: none"> ___ Uses appropriate language ___ Does not disrupt the class 	

accountability C	<input type="checkbox"/> Does not text during class or have a phone ringing or noticeably vibrating <input type="checkbox"/> Is courteous and respectful	
Total		/10

Assignments and Assessments	Point Per Activity	# of Activities	Points Possible
Homework	50	11	550
Presentation(s)	100	1-3	100 - 300
Documentation Paper(s)	100	1-3	100 -300
Unit Test	100	5	500
Final Exam	100	1	100
Measuring EMPLOYABILITY SKILLS	10	3	30
Total Points Possible			1380 - 1780

E-mail your instructor to confirm that you have read and agree to the class policies, procedures, due dates, and terms communicated in this syllabus. Please use the e-mail listed above under Instructor Information.

Math & Logic – Fall Term 2148

Catalog #10-804-133, Class # 81864

This syllabus serves as a contract between my Instructor and me. By signing this syllabus, I am communicating that I thoroughly reviewed this syllabus and understand the course information, class policies, course schedule, and expectations of my behavior and performance as set forth in this document. I will ask any questions pertaining to anything that is unclear to me. My signature endorses the fact that I understand the Instructor's grading rationale and will abide by the participation invitation.

Learner Signature: _____

Date: _____