Kishwaukee College Syllabus
CIS 111 - 3001
Logic and Program Design
3 Credit Hours, Fall 2017

Course Description

An introduction to programming designed to introduce common programming concepts to prepare for traditional programming courses. The topics to be covered include: structured programming concepts, flowcharts, pseudocode, number systems, Boolean logic, file processing, interactive input and output, an overview of assembly language, and an introduction to object-oriented programming concepts. Students will be expected to solve some problems using a programming language. Three hours lecture/discussion a week.
Prerequisite: None.

Meeting Time and Place

Lecture/Lab:	A-1374	
Time:	11:00 A.M. - 12:15 P.M.	Tuesday, Thursday
Dates:	8/22/17 - 12/15/17	
Withdrawal date:	11/27/17	
Labor Day:	9/4/17	School closed
Fall break:	10/13/17	School closed
Thanksgiving:	11/22/17 5PM - 11/25/17	School closed
Midterm exam:	10/17/17	during class
Final exam:	12/12/17	10:00 A.M. - 11:50 A.M.

Instructor Information

Instructor:	David G. Klick
Office:	A-1342
Email:	dklick@kish.edu
Phone:	815/825-9337
Website:	kermit.kish.edu/~dklick/
Backup website:	klickfamily.com/david/school/
Desire2Learn:	https://kish.desire2learn.com/
Dept. Secretary:	815/825-9303 (Shelley Lawson)
Office hours:	M 10:00 A.M. - 11:00 A.M., 1:45 P.M. - 2:30 P.M.
	T 1:45 P.M. - 2:30 P.M., 5:15 P.M. - 6:00 P.M.
	W 10:00 A.M. - 11:00 A.M., 1:45 P.M. - 2:30 P.M.
	R 1:45 P.M. - 2:45 P.M.
	other times by appointment

Expected Learner Outcomes

Upon completion of this course, the student will be able to:

1. discuss and describe the software development process,

2. demonstrate the use of flowcharting and pseudocode in the development of programs,

3. compare and contrast the control structures used in structured programming,

4. create programs to solve problems using the repetition, selection, and sequence structures,

5. demonstrate the use of arrays in a program,

6. compare and contrast random and sequential file access,

7. write a program that uses sequential file access,

8. write a program that uses random file access,

9. convert numbers between binary, decimal, octal, and hexadecimal,

10. compare and contrast machine language and assembly language,

11. compare and contrast procedural and object-oriented languages,

12. demonstrate the use of Boolean logic in a program,

13. demonstrate the use of methods/functions/procedures in a program,

14. define some basic object-oriented programming terminology, and
15. demonstrate the use of object-oriented programming techniques.

Required Text and Materials

1. University of Cape Town, et al. (2015) Object Oriented Programming in Python. (Free legal download at http://readthedocs.org/projects/python-textbok/downloads /pdf/1.0/
2. Swaroop, C. H. (2013). A Byte of Python version 2.1. Lulu Press, Inc. (Free legal download at https://www.gitbook.com/book/swaroopch/byte-of-python/details)
3. Downey, A. B. (2015). Think Python. Sebastopol, California: O'Reilly Media. [ISBN-10: 1491939362, ISBN-13: 978-1491939369] (Free legal download at http://greenteapress.com/thinkpython2/thinkpython2.pdf)
4. Pilgrim, M. (2009). Dive into Python 3. New York, New York: Apress. [ISBN-10: 1430224150, ISBN-13: 978-1430224150] (Free legal download at http://www.diveintopython3.net/)
5. Internet access
6. Python (Free legal download at https://www.python.org/)
7. Python documentation (Free legal download at https://www.python.org/doc/)
8. Other software (such as a programmer's text editor) available free of charge over the Internet

Breakdown of Course Requirements

10 assignments @ 40 points each	400 points
1 midterm exam @ 100 points	100 points
1 final exam @ 100 points	100 points
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Total	600 points

Final Grade Determination

A = 90 - 100%	540 points or more
B = 80 - 89.9%	480 - 539 points
C = 70 - 79.9%	420 - 479 points
D = 60 - 69.9%	360 - 419 points
F = below 60%	less than 360 points

Grade reports will not be mailed out. Please check KishSOS, My Student Info, under Academic Profile, Grades, for grade reports.

Course Procedures

1. Students are expected to attend class sessions on time and prepared (Note: CIS 123 class sessions are optional attendance). Students should bring whatever they need to take notes to every class.
2. Food and beverages are not permitted in the classrooms or labs. See a more detailed policy at http://kermit.kish.edu/~dklick/foodDrinkPolicy.html
3. Cellphones, music players, etc. must be turned off in class.
4. Students are expected to spend time outside of class completing assignments.
5. A familiarity with computers and the Windows operating system is expected.
6. Depending on the assignment, both digital and hardcopy versions of assignments may be required for submission. The procedure for submitting digital copies of assignments will be explained in class. Make sure you always keep a copy of all of your assignments. The instructor is NOT responsible for network failures, server failures, or student mistakes.
7. The instructor answers many questions via email. Due to the high volume of requests, submissions, and questions received via email, the instructor must prioritize responses. Most questions will be answered (or at least acknowledged) within 48 hours. If you do not get a response when you expect one, please keep in mind that your email may have failed to reach the instructor, or may have automatically been rejected by an email client or server. Please try to contact the instructor again and possibly use the phone or an in-person visit if email is failing.

Make-up Policy

1. Assignments are to be turned in on time. Assignments which are not turned in on time will not be accepted unless individual arrangements are made in advance with the instructor. In unusual cases where late assignments are accepted, the cost of being late is ten percent of the total possible points for every portion of a day late, up to a maximum of three days late. For example, an assignment received twentyfive hours past its due date will lose twenty percent of its total possible point value (because it is two days late). Assignments which are received more than three days (seventy-two hours) late will not be accepted and are not worth any points. Exceptions may be made to this rule if the student contacts the instructor before the due date and makes special arrangements in advance with the instructor. All late acceptance decisions of this nature are left solely to the discretion of the instructor.

   This rule does not apply once answers to an assignment have been distributed or posted. Assignments submitted after answers have been released are worth zero points even if the answers are posted one minute past the due date.

2. Answers to assignments may be posted online, handed out in class, or sent via email by the instructor. Once an answer to an assignment has been released, no further submissions for the assignment will be allowed. This rule supersedes all other rules about when late assignments may be accepted. In general, the instructor will try to wait at least forty-eight hours before posting or distributing solutions, but there is no guarantee, so get your assignments in on time.

3. Tests are to be taken at the day and time scheduled. Failure to take a test at the scheduled time may result in a grade of 0 for that test. In the case of an excusable absence or a genuine emergency, the instructor must be contacted as soon as possible, preferably before the scheduled test, to reschedule the makeup of that test in the Learning Skills Center on the day the student returns to campus.

Attendance Policy

Class attendance is strongly encouraged. You are responsible for whatever was covered in class, whether you are there or not. If you must miss a class, it is your responsibility to contact the instructor and make arrangements for notes, handouts, or announcements that were missed. Although attendance is not counted toward the final grade, there may be coursework which is done during class time which may count toward the final grade and may not be able to be taken outside of class time.

Kishwaukee College Policies and Resources

It is the responsibility of the student to be aware of Kishwaukee College Policies & Resources found on this link: kish.edu/kcsyllabuspolicies

Tentative Weekly Schedule

Please note that this schedule and the topics covered are likely to change. Changes will be announced in class. If you are not able to attend class, it is your responsibility to find out what was covered. A more detailed schedule is provided on the course website. Assignment descriptions and due dates will also be posted on the course web site.

Week	Date	Topics	Reading
1	8/22	syllabus, obtaining and installing Python 3	BoP Installation DiP3 Chap 0 (Installing Python)
	8/24	fundamental programming concepts, basic flowcharting, pseudocode	OOPiP Introduction ThinkPy Chap 1 (The way of the program)
2	8/29	comments, literals, variables, numbers, expressions, operators, output	BoP Basics BoP Operators and Expressions ThinkPy Chap 2 (Variables, ...) OOPiP Python Basics LangRef 6 (Expressions)

	8/31	strings, input, formatting strings and output	BoP Basics OOPiP Python Basics/Strings ThinkPy Chap 8 (Strings) DiP3 Strings PyTut 3.1.2 (Strings) PyTut 7.1 (formatting)
3	9/5	Boolean values, relational and logical operators, selection	BoP Control flow OOPiP Selection control statements ThinkPy Chap 5 (Conditionals ...) LangRef 8 (Compound statements) PyTut 4 (More Control Flow Tools)
	9/7	repetition, flowcharting selection and repetition, input validation	BoP Control flow OOPiP Loop control statements BoP Exceptions ThinkPy Chap 5 (Iteration ...) PyTut 4 (More Control Flow Tools)
4	9/12	functions, DocStrings	BoP Functions ThinkPy Chap 3 (Functions) OOPiP Functions
	9/14	functions, flowcharting functions, hierarchy charts	BoP Functions ThinkPy Chap 3 (Functions) OOPiP Functions
5	9/19	modules, imports, turtle graphics	BoP Modules
	9/21	recursion, recursion vs. iteration	ThinkPy Chap 6 (Fruitful functions)
6	9/26	lists	BoP Data Structures ThinkPy Chap 10 (Lists) DiP3 Lists PyTut 3.1.3 (Lists) OOPiP Collections/Lists PyTut 5.1 (More on Lists)
	9/28	arrays	LibRef 8.7 (array)
7	10/3	sets and dictionaries	BoP Data Structures ThinkPy Chap 11 (Dictionaries) DiP3 Dictionaries DiP3 Sets OOPiP Collections/Sets OOPiP Collections/Dictionaries PyTut 5.4 (Sets) PyTut 5.5 (Dictionaries)

	10/5	tuples	BoP Data Structures ThinkPy Chap 12 (Tuples) DiP3 Tuples OOPiP Collections/Tuples PyTut 5.3 (Tuples and Sequences)
8	10/10	text file I/O	BoP Input and Output ThinkPy Chap 14 (Files) DiP3 Files
	10/12	text file I/O, creating reports	BoP Input and Output ThinkPy Chap 14 (Files) DiP3 Files
9	10/17	Midterm Exam	
	10/19	control break logic for reports	
10	10/24	binary file I/O	ThinkPy Chap 14 (Files) DiP3 Files
	10/26	binary file I/O, creating reports, control break logic	ThinkPy Chap 14 (Files) DiP3 Files
11	10/31	searching	OOPiP Sorting, searching
	11/2	sorting	OOPiP Sorting, searching
12	11/7	classes: objects	BoP Object Oriented Programming ThinkPy Chap 15 (Classes and objects) OOPiP Object-oriented programming
	11/9	classes: objects	BoP Object Oriented Programming ThinkPy Chap 16 (Classes and functions) OOPiP Object-oriented programming
13	11/14	classes: methods	BoP Object Oriented Programming ThinkPy Chap 17 (Classes and methods) OOPiP Object-oriented programming
	11/16	classes: methods	BoP Object Oriented Programming ThinkPy Chap 17 (Classes and methods) OOPiP Object-oriented programming
14	11/21	classes: inheritance	BoP Object Oriented Programming ThinkPy Chap 18 (Inheritance) OOPiP Object-oriented programming

	11/23	Thanksgiving - school closed 11/22 5 P.M. - 11/25	
15	11/28	number systems	[Online tutorial](#)
	11/30	number systems	[Online tutorial](#)
16	12/5	GUI, event-driven programming	OOPiP Intro to GUI
	12/7	GUI, event-driven programming	OOPiP Intro to GUI
17	12/12	Final exam: 10:00 A.M. - 11:50 A.M., Rm. A-1374	