Miyazaki International College
Course Syllabus
Fall 2018

Course Title (Credits)	IDS314: Fundamentals of Computer Programming (3 credits)
Course Designation for TC	N/A
Content Teacher	
Instructor	Anderson Passos, Ph.D.
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Language Teacher	
Instructor	
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Office hours	

Course Description:

This course teaches students basic principles and concepts of procedural and objected oriented computer programming. Students will develop skills in designing and developing simple computer programs from beginning to end. This course requires no programming background, but previous enrollment in Algorithmic Thought is highly recommended.

Course Objectives:

By completing this course students will:

- Be familiar with programming concepts
- Be familiar with program readability, style/formatting and self-documenting source code
- Be able to design and implement basic programming solutions including statements, control structures, and methods.
- Develop critical thinking skills throughout program design.
- Exercise active learning by hand-on programming and debugging.

Course Schedule:		
Day	Topic	Content/Activities
1	Introduction	- Introduction - Syllabus review
2		- Pseudocode - Program organization

3	Data types and variables	- Working with basic data types:
		  o Integer
		  o Float
		  o Double
		  o Character
		  o Strings

4		- Arithmetic and expressions
5		- Basic I/O - Strings
6	Data validation	- Boolean validation - Input validation
7	Control and repetition structures	- Conditional statements
8		- Comparisons
9		- Multiple alternatives
10		- Nested branches
11		- Sub programs
12		- “while” loops
13		- “for” loops
14		- “do” loops
15		- Sentinel values - Nested loops

16	Functions and procedures	- Functions vs procedures
17		- Returning values
18		- Method reuse
19		- Local variables
20		- Global variables
21	Data base programing	- Table design - SQL
22		- E/R design
23		- Data validation - Transactions - Rollback

24		- Data relationships
		  o Foreign key
		  o Primary keys

25	Object Oriented Programming	- Introduction - Basic concepts
26		- Objects and classes
27		- Implementing classes
28		- Hierarchy
29		- Arrays - Arrays algorithms
30		- Review for finals
	Final Examination	

Required Materials:

- A notepad
- USB pen drive with at least 8 GB of space
- Personal computer

Course Policies (Attendance, etc.)

Student Responsibilities

As a class member, you are responsible for attending all classes and arriving on time, for participating as a member of a group, and for completing and handing in all assigned work.

Attendance and Lateness

- You can be absent a maximum of 4 times
- If you are more than 20 minutes late, you will be given an absence
- Two lateness are equal to one absence

If you sum up more than 4 absences (e.g. 3 absences and 3 lateness), you will be asked to withdraw from the course. Failing to do so will result in an automatic “F” grade.

Homework

The homework should be handed in at the beginning of every class. All homework submitted after that will **not** be considered.

Excused Absences

Excused Absence forms should be brought to instructors as soon as possible. If you know you will be missing classes talk to us beforehand so we can arrange make-up work.

Late Assignments

It is your responsibility to look for the instructor and check what assignments are due.
Also, if you miss a class, it is your responsibility to contact the instructors to get handouts and explanations (missing a class is no excuse for not handing in homework).

Plagiarism and Intellectual Honesty

Plagiarism is representing someone else's intellectual property--words, ideas, or images-as your own. It is a very serious academic offense and plagiarized work is not accepted in this course. Ask one of the instructors if you have any questions about this. You are responsible for understanding what plagiarism is and knowing how to avoid it in your work.

Class Preparation and Review

Students are expected to spend at least one hour preparing for every hour of lesson, and one hour reviewing and doing homework. Make sure you review your notes after each class and make sure you understand the topics covered. The instructor is available outside the classroom in case students need additional assistance (please check office hours on the first page of this syllabus).

Very often, you will have homework assignments. Make sure you review those before coming to the next class. Also, check the class Content/Activities so you can be prepared for the class.

Grades and Grading Standards

- Homework 30%
- Tests 50%
- Participation 20%

You will receive a mid-semester evaluation to let you know how you have been doing up to that point.

Methods of Feedback:

Homework assignments will be graded and returned within a week of submission. Additional comments and feedback will be given verbally in class, but students are encouraged to come to instructor's office during office hours in case extra explanations are needed.

Tests are usually graded using a rubric which will be made available and explained during the test period. Students are encouraged to ask additional clarification before the test starts.

Participation is required not only answering questions, but also asking questions.

Diploma Policy Objectives:

Work completed in this course helps students achieve the following Diploma Policy objective(s):

3: The ability to identify and solve problems

5: Proficiency in the use of information technology

Notes:

文部科学省から採択された 大学教育再生加速プログラム		Advanced	Proficient	Developing	Emerging	No Attempt
						
Critical Thinking	Ability to Identify & Solve Problems	Insightful comments in class discussions Student shows proven ability to analyze data, gather and assess resources, and disseminate opinions in a scholarly manner.	Able to contribute to class discussions, and to perform a basic analysis of data, gather and assess resources, and express opinions in an adequate manner.	Beginning to visualize the ways in which information can be combined and applied to solving a given problem, but struggles with complex and relationships	Student shows motivation but must learn the concepts and mechanisms that apply to critical thinking, such as information gathering, assessment and synthesis	Insufficient effort or evidence of achievement
	Information Gathering					
	Assessment of Credibility					
	Social Skills					
	Professional Skills					
Global Perspectives	Cultural Relevancy	Fully engaged in current events and shows and understanding of social inequalities and cultural differences.	Student is aware of current events and world cultures, but is unable to apply macro-level situations to her/his own life.	Exhibits interest and intrigue in current events and world culture, but has difficulty understanding relevancy.	Student expresses one-sided ideals from an ethnocentric point of view. Completely lacks awareness of world issues or events.	
	Awareness of Current Events & Global Issues					
English Language Ability	Reading	Exhibits fluency/near fluency in speaking and writing. Grammar and reading ability similar to native English speaker. Able to use context clues when faced with unfamiliar vocabulary.	Proficient English ability; relies mainly on familiar vocabulary. Should be encouraged to advance beyond comfort zone.	Adequate English ability; must reference dictionary often	Student has some English ability, but lacks confidence in using and understanding. Very limited vocabulary knowledge, struggles with grammar and pronunciation Unable to form questions	
	Writing					
	Oral Communication					
	Writing					
	Oral Communication					