CIS 101 – Beginning Programming
Course Syllabus and Calendar – Fall 2015

Professor Don Colton
Brigham Young University–Hawai'i

August 3, 2015

Class: AM section: MWF 11:00 to 12:00, PM section: MWF 13:20 to 14:20, Mon, Aug 03 to Wed, Oct 28, GCB 111.

Final Exam: AM section: Fri, Oct 30, 10:00 to 12:50, PM section: Fri, Oct 30, 13:00 to 15:50, GCB 111.

Certain content is required in all BYUH syllabi. Section 10 gives a convenient summary of that content.

You may find sections 1 through 5 to be immediately helpful in understanding this class and how it will be conducted. Read those first.

Contents

1 Overview

Computers are great. But they are also really stupid.

By stupid, I mean computers only understand really simple commands. Anything complex must be built up out of these simple commands.

Programming is the art of building up the fun and interesting things that you want to be done, starting from just the really simple commands that the computer can understand.

Sometimes it is frustrating. Sometimes it is very satisfying.

This class teaches skills by which you can better serve those around you. It teaches skills you can "take to the bank."

There are many fine programming languages. Our programming language will be Perl.

1.1 General Education Breadth

CIS 101 satisfies the BYUH General Education Breadth of Knowledge requirement in Science and Technology.

The Breadth of Knowledge categories are intended to give people (majors) credit for something they are already taking in their major area, and give others (explorers) a chance to explore a broader range of fields.

My goal is to serve both majors and explorers well. If you have suggestions, please let me know.

1.2 Expected Proficiencies

As you begin this course, we assume you have no programming experience whatsoever. We expect you can read, type, send and receive email, and visit web sites. We will teach you everything else you need to know.

Ideally you will have your own personal computer, probably a laptop, on which you can write and test programs. (You can also use the computers in the CIS department labs.) The textbook tells how to install Perl on a Windows machine, and how to find it (pre-installed) on a Macintosh.

If you are worried that you may not learn quickly enough, you should attend the special lab held right after class each day. See section 3.1 below.

1.3 Retaking CIS 101

If you are retaking this class, it is probably a major requirement for you. You should attend the special lab that is held right after class each day. See section 3.1 below.

If you are retaking, do not reuse your old work. That would hurt your learning. Do not even look at any of your old work until the course is ended. Start fresh and redo everything as though you were taking the class for the first time.

2 Course and Faculty

2.1 Course Information

There are two sections of this class this semester. I will refer to them as the AM section and the PM section (or the morning section and the afternoon section), based on when they meet.

- **Title:** Beginning Programming
- **Course Number:** CIS 101
- **Course Description:** (from the catalog) Extensive hands-on software development and testing using variables, arrays, instruction sequences, decisions, loops, and subroutines. May also include dynamic web pages (CGI) and regular expressions.
- **Prerequisites:** none
- **Semester/Year:** Fall 2015
- **Semester Code:** 2155
- **Meeting Time:**
  AM section: MWF 11:00 to 12:00, PM section: MWF 13:20 to 14:20
- **Location:** GCB 111
- **First Day of Instruction:** Mon, Aug 03
- **Last Day to Withdraw:** Mon, Sep 28
- **Last Day for Late Work:** Wed, Oct 28
- **Last Day of Instruction:** Wed, Oct 28
- **Final Exam:**
  AM section: Fri, Oct 30, 10:00 to 12:50, PM section: Fri, Oct 30, 13:00 to 15:50

2.2 Faculty Information

- **Instructor:** Don Colton
- **Office Location:** GCB 128
- **Office Hours:** (In GCB 111) MWF 12:10-12:40 and 14:30-15:00, TuTh 15:30-16:00.
- **Email:** doncolton2@gmail.com
- **Campus Homepage:**
  http://byuh.doncolton.com/ is my campus homepage. It has my calendar and links to the homepages for each course I teach.
- **Off-Campus Homepage:**
  http://doncolton.com/ is my off-campus homepage.

I have reserved GCB 111 on MWF from 12:10 to 13:10 and 14:30 to 15:30 (right after my CIS 101 classes) and on TuTh from 15:30 to 17:00 (right after my IT 240 class) so my students (and others) can study in a lab setting and meet with me and each other. I will be there at the start of those hours, and will stay as long as students are asking me questions. I also allow the room as an Open Lab for your use either individually or in groups, for my class or for other classes.

2.3 Course Readings and Materials

- **Textbook:**
  http://ipup.doncolton.com/ Introduction to Programming Using Perl and CGI, by Don Colton.
- **Learning Management System:**
  https://dcquiz.byuh.edu/ is the learning management system for my courses.
- **Course Homepage:**
  http://byuh.doncolton.com/cis101/ is my

course homepage. It has links to many things including the syllabus, study guide, and textbook.

- **Study Guide:** http://byuh.doncolton.com/cis101/2155/sguide.pdf is the study guide for this course. It includes a copy of most parts of this syllabus. The study guide is updated frequently throughout the semester as assignments are made and deadlines are established or updated.

3 Calendar

Mon Aug 03 o1H, First Day of Instruction
Wed Aug 05 g21
Fri Aug 07 g33
Mon Aug 10 o1R, Read Unit 1: Output
Wed Aug 12 g35
Fri Aug 14 o1D, Read Unit 2: Input
Mon Aug 17 g41
Wed Aug 19 c2M, Read Unit 3: Math
Fri Aug 21 **Exam v0 prac**
Mon Aug 24 g42
Wed Aug 26 o2M, Read Unit 4: Decisions
Fri Aug 28 **Exam v1**
Mon Aug 31 g51
Wed Sep 02 g61, Read Unit 5, Decisions
Fri Sep 04 o6F, Read Unit 6: Loops
Mon Sep 07 Labor Day Holiday
Wed Sep 09 g46
Fri Sep 11 **Exam v2**
Mon Sep 14 g47
Wed Sep 16 o6D
Fri Sep 18 g73
Mon Sep 21 o6M, Read Unit 7: Arrays
Wed Sep 23 g45
Fri Sep 25 **Exam v3**
Mon Sep 28 o7T, Last Day to Withdraw
Wed Sep 30 g78
Fri Oct 02 o7F, Read Unit 8: Subroutines
Mon Oct 05 g65
Wed Oct 07 o6H
Fri Oct 09 **Exam v4**
Mon Oct 12 g43
Wed Oct 14 g7A
Fri Oct 16 tba
Mon Oct 19 tba
Wed Oct 21 tba
Fri Oct 23 **Exam v5**
Mon Oct 26 tba
Wed Oct 28 oJS, last day for late work
Fri Oct 30 **Exam v6**, AM section: 10:00 to 12:50, PM section: 13:00 to 15:50, GCB 111

We meet 38 times including the final exam.

Exam dates are firm and will not change unless there is a massive emergency. Exams are closed-book, closed-notes, closed-neighbor, etc. You can bring blank paper.

Other activities are likely but subject to change.

3.1 Special Lab

As noted above, I have reserved GCB 111 on MWF from 12:10 to 13:10 and 14:30 to 15:30 (right after my CIS 101 classes) and on TuTh from 15:30 to 17:00 (right after my IT 240 class) so my students (and others) can study in a lab setting and meet with me and each other. I will be there at the start of those hours, and will stay as long as students are asking me questions. I also allow the room as an Open Lab for your use either individually or in groups, for my class or for other classes.

Many students finish their daily activity assignments during the regular class hour, or during the first few minutes of the special lab that is held right after class each day.

You can actually register for the special lab hour. It is called CIS 101L, and is a zero-credit class where everyone receives a grade of "P" (pass). The main reason to register is to reserve that time on your schedule, so you know you will be able to attend as needed.

Everyone is welcome to attend whether they registered for CIS 101L or not.

4 Grading

I use a 60/70/80/90 model based on 1000 points.

Based on 1000 points

930+	A	900+	A–	870+	B+
830+	B	800+	B–	770+	C+
730+	C	700+	C–	670+	D+
630+	D	600+	D–	0+	F

The 1000 points are divided up as follows.
• Daily Updates 38+2 points.

- Daily Quizzes 135 points.
- Activities 300 points.
- Exams 525 points.

If you want to major in CS, IS, or IT, you need to earn a C or better (730 points or more) in this class.

4.1 CIS 101 Grade Books

In my Learning Management System (DCQuiz), I keep several online grade books so you can see how your points are coming along. This lets you compare yourself with other students in the class (without seeing their names).

2155 CIS 101 Overall Grade Book: This includes the totals from all the other grade books. This is where you can find your final grade at the end of the course.

2155 CIS 101 (whatever) Grade Book shows your points in the (whatever) category. (whatever) is Attendance, Daily Quiz, Activities, or Exam.

4.2 Attendance (38 points)

Each day in class starts with the "daily update" (DU). It is my way of reminding you of due dates and deadlines, sharing updates and news, and taking roll. It is your way of saying something anonymously to each other and to me. It must be taken in class at a classroom computer during a window of time that starts a few minutes before class and ends 5 minutes into class.

Attendance: You must attend to earn the Attendance points. You must attend to earn the Daily Quiz points. You must attend to earn the exam points. Besides that, there is no penalty for being late or lack of attendance. You can do the daily activities without attending, for instance.

2155 CIS 101 Attendance Grade Book shows your attendance points, one point per day, for 38 days. You get one point for each time you do the daily update. If you arrive too late to complete the daily update, you will not receive the attendance points for that day.

Tardiness: My tardiness policy is that you should arrive in time to complete the daily update. Generally if you are less than four minutes late, you will have time to complete the daily update before the deadline.

4.3 Daily Quiz (135 points)

There are assigned readings. These are listed in the course calendar. Right after prayer on many days (but not exam days), there will be a short quiz. It will consist of several randomly chosen questions from the assigned readings.

The daily quizzes are "closed book," by which I mean that you are not allowed to look up answers while you are taking the quiz.

Your scores from these Daily Quizzes will be recorded in **2155 CIS 101 Daily Quiz Grade Book**. The total from this grade book will be rescaled so the top score is worth 135 points.

4.4 Daily Activities (300 points)

On most days we will have an in-class activity assignment. Each will normally be worth 10 points. Roughly 30 assignments x 10 points = 300 points.

2155 CIS 101 Activities Grade Book tracks your performance on daily activities. The number of in-class activities is not perfectly predictable. The total from this grade book will be rescaled so the full-credit values add up to 300.

Assignments are correct when they work properly and comply with all other stated requirements (such as style and algorithm). Points are assigned according to the date on which the correct work is received. Details are provided in the study guide, but in general it works like this:

11: Correct by 23:59 the same class day it was discussed or assigned. This includes a ten percent bonus for turning it in early.

10: Correct by 23:59 of the next class day. This is full credit.

7: Correct by 23:59 of Wed, Oct 28, the last day for late work. This is partial credit for being late.

4.5 Final Exams (525 points)

You get seven chances to pass the final exam. There are 21 sections to the exam. You should pass each section at least once.

Final Exam Dates:

Fri Aug 21 Exam v0 (Practice)
Fri Aug 28 Exam v1
Fri Sep 11 Exam v2
Fri Sep 25 Exam v3
Fri Oct 09 Exam v4
Fri Oct 23 Exam v5
Fri Oct 30 Exam v6

There are 21 exam tasks. Each is a program for you to do during one of the final exams. Each is worth 25 points. Points for each question can be earned only once.

Each exam is a "final exam" in the sense that it covers everything we learn during the semester, and by completing it, you earn the points for it as though you had done it on the day of the actual final. One practice exam is also given, for no credit, to help you understand how to do the other tests.

(525) Exam Points (21 tasks)

- 1 25p String Basic
- 2 25p Number Basic
- 3 25p Number Story
- 4 25p Number Decision
- 5 25p Number Decision Story
- 6 25p String Decision
- 7 25p String Decision Bracket
- 8 25p Repeat While
- 9 25p Repeat For
- 10 25p Repeat Last
- 11 25p Repeat Nested
- 12 25p Lists Basic
- 13 25p Lists Loop
- 14 25p Arrays Basic
- 15 25p Arrays Loop
- 16 25p Split
- 17 25p Join
- 18 25p Subroutine Returns
- 19 25p Subroutine Positional Parameters
- 20 25p Subroutine Globals and Locals
- 21 25p Subroutine Variable Parameters

The study guide talks more about each of these tasks.

4.6 Other Extra Credit

Extra credit is available for reporting an error in my formal communications (the published materials I provide), so I can fix it. In this class, the materials include the following:

- The course website, parts relating to this semester.
- The course syllabus.
- The course study guide.
- The course textbook, since I wrote it.

Each error reported can earn you extra credit. (Typos in my email messages are all too common and do not count.)

Syllabus errors (unless they are major) will probably be fixed only in the study guide. Check there before reporting it.

5 Communication

We communicate with each other both **formally** and **informally.**

Formal communication is official, carefully worded, and normally in writing. Formal is for anything truly important, like grades.

Informal communication is casual and impromptu. It is meant to be helpful and efficient. Reminders are informal. Explanations are usually informal.

Email is a special case.

If the formal and the informal do not agree with each other, trust the formal but also let me know so I can correct any errors.

5.1 From Me to You, Formal

I communicate formally, in writing, through (a) the syllabus, (b) the study guide, and (c) the learning management system.

(a) Syllabus: http://byuh.doncolton.com/cis101/2155/syl.pdf is the syllabus for this course. It tells our learning objectives and how you will be graded overall. You can rely on the syllabus. After class begins, it is almost never changed except to fix major errors.

(b) Study Guide: http://byuh.doncolton.com/cis101/2155/sguide.pdf is the study guide for this course. It includes a copy of the syllabus. The study guide may be updated during the semester, as assignments are made and deadlines are established or updated.

(b1) Calendar: The study guide tells when things will happen. It contains specific due dates.

(b2) Assignments: The study guide tells what assignments have been made and how you will be graded, item by item. It provides current details and specific helps for each assignment. It provides guidance for taking the exams.

(c) DCQuiz: https://dcquiz.byuh.edu/ is my learning management system. I use it to give tests. I use it to show you my grade books.

5.2 From Me to You, Informal

My main informal channels to you are (a) word of mouth and (b) email.

(a) Word of Mouth, including Lecture: Class time is meant to be informative and helpful. But if I say anything truly crucial, I will also put it into the study guide.

(b) Email: My emails to you are meant to be helpful. But if I say anything truly crucial, I will also put it into the study guide. Normally I put CIS 101 at the front of the subject line in each email I send.

5.3 From You to Me, Email

Rule 1: Send emails to **doncolton2@gmail.com**

Rule 2: Put **cis101** in your email subject line.

I must confess, I sometimes get buried in email, especially at the end of the semester. I do not want to overlook your email to me, or have it end up caught in my spam filter. And for my own sanity I want to be able to find and deal with all the email related to this class at the same time. This is especially true for large classes.

My solution is to have you put **cis101** (exactly, with no spaces in it) in your email subject line, preferably as the first word. If you do this, my email system will immediately and automatically respond to you, telling you that I got your email and it is in my queue.

If you fail to do this, you will not get an immediate reply and your email will end up in some other queue in my work flow. Your email will not be noticed when I am grading for this class. In the best case I will eventually handle your email. In the worst case your email will be in my spam folder and I will never even see it.

5.4 From You to Me, Formal

Your formal channels to me, specifically how you turn in class work, are mainly via (a) the learning management system, (b) email, and (c) specifically requested projects.

(a) DCQuiz: To use my learning management system, you must log into it. Then, you can respond to questions I have posted. Each day there will be a "daily update". I say more on that elsewhere. Tests will also be given using DCQuiz.

(b) Email: You will use formal email messages to submit some of the work you create and to tell me certain other things. The study guide tells how to send formal emails, including where to send them, what subject line to use, and what to put in the body of the message.

5.5 From You to Me, Informal

Your informal channels to me, typically how you ask questions and get assistance, are mainly face to face and by email or chat.

Face to Face: If you need help with your class work, I am happy to look at it and offer assistance. Often this happens during class, during open labs, or during office hours. Often I will have you put your work on your computer screen, and then I will take a look at it while we talk face to face.

Email / Chat: You can also get assistance by sending me an email or doing a chat. I will do my best to respond to it in a reasonable and helpful way. If you want something formal, use the formal rules.

If you are writing about several different things you will usually get a faster response if you break it up into several smaller emails instead of one big email. I try to respond to a whole email at once, and not just part of it. I usually answer smaller and simpler emails faster than big ones.

6 Instructional Methods

Exams happen on scheduled exam days. This in-

structional method brings you face to face with the challenges you need to be able to solve.

Lectures happen occasionally. I review material that was assigned from the text book and do what I can to make it clear and interesting. These can be short or take up most of the class hour. Longer ones happen more often at the start of the course than they do later on.

Activity days are usually the most common. A learning activity is assigned. Typically it is a program to be written. The program will be described in the study guide. I often give an overview of the problem and the techniques that I think will be helpful to solve it. Typically this takes about 15 minutes, but the actual time varies widely. Then I sit down at the front of the room and invite students to visit with me, one on one, for assistance. Students are also encouraged to help each other.

Help in Class: As students come to visit with me, I call up their computer screen from the place they were sitting, and we look at their program code or whatever else the student is asking about. We review the situation together. The student then returns to work on their program at their seat and I work with the next student waiting in line.

I want to help as many students as I can. You can help by doing these kinds of things before coming up.

(a) If asking about an assignment, have my study guide available in a tab on your browser, turned to the relevant assignment so we can review the requirements.

(b) If asking about grades, have my grade book available.

(c) If asking about an exam question, have that exam available.

6.1 BYUH Learning Framework

I agree with the BYUH Framework for Learning. If we follow it, class will be better for everyone.

6.1.1 Prepare for CIS 101

Prepare: Before class, study the course material and develop a solid understanding of it. Try to construct an understanding of the big picture and how each of the ideas and concepts relate to each other. Where appropriate use study groups to improve your and others' understanding of the material.

In CIS 101: Make reading part of your study. There is more than we could cover in class because we all learn at different rates. Our in-class time is better spent doing activities and answering your questions than you listening to a general lecture.

6.1.2 Engage in CIS 101

Engage: When attending class actively participate in discussions and ask questions. Test your ideas out with others and be open to their ideas and insights as well. As you leave class ask yourself, "Was class better because I was there today?"

In CIS 101: Participate in the in-class activities. As you make progress, assist those around you that want assistance. It is wonderful what you can learn by trying to help someone else.

6.1.3 Improve at CIS 101

Improve: Reflect on learning experiences and allow them to shape you into a more complete person: be willing to change your position or perspective on a certain subject. Take new risks and seek further opportunities to learn.

In CIS 101: After each exam, I normally allow you to see every answer submitted, every score given, and every comment I wrote, for every question, until the next exam happens. Compare your answers to those of other students. See how your answers could be improved. If you feel lost, study the readings again or ask for help.

6.2 Support

The major forms of support are (a) open lab, (b) study groups, and (c) tutoring.

If you still need help, please find me, even outside my posted office hours.

6.2.1 Office Hour / Open Lab

Office hours are MWF 12:10-12:40 and 14:30-15:00, TuTh 15:30-16:00.

See section 3.1 for information on the open lab.

6.2.2 Study Groups

You are encouraged to form a study group. If you are smart, being in a study group will give you the opportunity to assist others. By assisting others you will be exposed to ideas and approaches (and errors) that you might never have considered on your own. You will benefit.

If you are struggling, being in a study group will give you the opportunity to ask questions from someone that remembers what it is like to be totally new at this subject. They are more likely to understand your questions because they sat through the same classes you did, took the same tests as you did, and probably thought about the same questions that you did.

Most of us are smart some of the time, and struggling some of the time. Study groups are good.

6.2.3 Tutoring

The CIS department provides tutoring in GCB 111, Monday through Friday, typically starting around 17:00 and ending around 23:00 (but earlier on Fridays). Normally a schedule is posted on one of the doors of GCB 111.

Tutors can be identified by the red vests they wear when they are on duty.

The best way to work with a tutor is to show them something that you have written and ask them why it does not work the way you want. This can open the door to a helpful conversation.

Another good way to work with a tutor is to show them something in the textbook and ask about it.

Please do not plunk down next to a tutor and say, "I don't understand. Can you teach me?" If you did not try hard to read carefully, you are wasting everybody's time.

7 Course Policies

Subject to Change: Like all courses I teach, I will be keeping an eye out for ways this one could be improved. Changes generally take the form of opportunities for extra credit, so nobody gets hurt and some people may be helped. If I make a change to the course and it seems unfair to you, let me know and I will try to correct it. If you still think it is unfair, you can appeal to the department chair or the dean. Also, you are welcome to suggest ways you think the class could be improved.

Digital Recording by me: I may digitally record the audio of my lectures some days. This is to help me improve my teaching materials.

Digital Recording by you: Almost everyone has a smart phone these days. I assume students will freely record what goes on in class, and take pictures of what is on the white board, to aid in their studies. I simply ask that you not embarrass anyone.

7.1 Special Treatment

There are many good reasons why students request special treatment. These include, for example, illness, field trips, performances, athletic events, and special needs. Instead of dealing with these as they arise, based on my past experience, I have adopted general policies that are intended to accommodate all but the most difficult cases, and thereby avoid the need for special treatment.

The exams are virtually identical, and given many times. If you miss one because of travels or illness or any other reason, just make it up by doing well on the next test. If you must miss three or more exams, you may have a special case and should see me.

7.2 Reasonable Accommodation

This section covers special needs, including qualified special needs, as well as all other requests for special treatment.

I have carefully designed each of my classes to provide reasonable accommodation to those with special needs. Beyond that, further accommodation is usually considered to be unreasonable and only happens in extreme cases. Please see the paragraph on "Accommodating Special Needs" below for more information.

Ample Time: Specifically, I allow ample time on tests so that a well-prepared student can typically finish each test in half of the time allowed. This gives everyone essentially double the amount of time that

should normally be needed.

Exam Retakes: There are no make-up exams. I give the final exam a number of times and some students are able to complete it before the last time.

Deadlines: Most assignments are due a few days after they are discussed, but I normally allow late work up until 23:59 on Wed, Oct 28. See the study guide for specific deadlines.

Even though I truly believe that these methods provide reasonable accommodation for almost everyone in almost every case, you might have a highly unusual situation for which I can and should do even more. You are welcome to see me about your situation.

8 Learning Outcomes

Outcomes (sometimes called objectives) are stated at several levels: Institutional (ILO), Program (PLO), and Course (CLO). In this section we set forward these outcomes and tell how they are aligned with one another.

8.1 ILOs: Institutional Outcomes

ILO: Institutional Learning Outcomes (ILOs) summarize the goals and outcomes for all graduates of BYUH.

Brigham Young University Institutional Learning Objectives (ILOs) Revised 24 February 2014

Graduates of Brigham Young University–Hawai'i will:

Knowledge: Have a breadth of knowledge typically gained through general education and religious educations, and will have a depth of knowledge in their particular discipline.

Inquiry: Demonstrate information literacy and critical thinking to understand, use, and evaluate evidence and sources.

Analysis: Use critical thinking to analyze arguments, solve problems, and reason quantitatively.

Communication: Communicate effectively in both written and oral form, with integrity, good logic, and appropriate evidence.

Integrity: Integrate spiritual and secular learning and behave ethically.

Stewardship: Use knowledge, reasoning, and research to take responsibility for and make wise decisions about the use of resources.

Service: Use knowledge, reasoning, and research to solve problems and serve others.

8.2 PLOs: Program Outcomes

PLO: Program Learning Outcomes (PLOs) summarize the goals and outcomes for graduates in programs for which this course is a requirement or an elective. These support the ILOs, but are more specific.

At the end of this section, we include the relevant page from the CIS Program Outcomes Matrix, dated April 2011.

The following outcomes are pursued at the "Introduced" level, and apply to one or more of the majors that use this course.

(a) An ability to apply knowledge of computing and mathematics appropriate to the discipline.

(b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.

(i) An ability to use current techniques, skills, and tools necessary for computing practice.

(CS j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices.

(CS k) An ability to apply design and development principles in the construction of software systems of varying complexity.

CIS Department Outcomes Matrix, April 2011

Program Outcomes

(a) An ability to apply knowledge of computing and mathematics appropriate to the discipline.
(b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
(c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
(d) An ability to function effectively on teams to accomplish a common goal.
(e) An understanding of professional, ethical, legal, security and social issues and responsibilities.
(f) An ability to communicate effectively with a range of audiences.
(g) An ability to analyze the local and global impact of computing on individuals, organizations, and society.
(h) Recognition of the need for and an ability to engage in continuing professional development.
(i) An ability to use current techniques, skills, and tools necessary for computing practice.

CS Only

(j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. [CS]
(k) An ability to apply design and development principles in the construction of software systems of varying complexity. [CS]

IS Only

(j) An understanding of processes that support the delivery and management of information systems within a specific application environment. [IS]

IT Only

(j) An ability to use and apply current technical concepts and practices in the core information technologies. [IT]
(k) An ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems. [IT]
(l) An ability to effectively integrate IT-based solutions into the user environment. [IT]
(m) An understanding of best practices and standards and their application. [IT]
(n) An ability to assist in the creation of an effective project plan. [IT]

R = Required in that program | **CSS** = CS B.S. |**CIS** = CIS B.S. | **IS** = IS B.S. | **IT** = IT B.S.
= choose at least 9 cr hrs | O = optional as a substitute | L = Introduced, M = Practiced with feedback, H = Demonstrated at the Mastery level

Course	Description	CSS	CIS	IS	IT	a	b	c	d	e	f	g	h	i	CSj	CSk	ISj	ITj	ITk	ITl	ITm	ITn
CIS 100	Fundamentals of Info. Systems & Tech.			R	R	L	L	L	L	L	L	L	L	L			L	L	L			
CIS 101	Beginning Programming	R	R	R	R	L	L							L	L	L						
CIS 202	Object-Oriented Programming	R	R	R	R	M	M	M		L			L	M	L	L		M	L		L	L
CIS 205	Discrete Mathematics I	R	R	R	R	M	M	L	L					M	M	M						
CIS 206	Discrete Mathematics II	R	R	R		M	M	L	L					M	M	M						
CIS 305	Systems Engineering I	R	R	R	R	M	M	M	M	L	L	M	L	M	L	L	M	L	H	L	H	M
CIS 401	Web Application Development	R		R	R	M	L	L						M			L	M	L	L		
CIS 405	Systems Engineering II	R	R	R	R	M	M	M	M	L	M	M	M	M	M	M	M	M	H	M	H	M
CIS 470	Ethics in Computer & Info. Sciences	R	R	R	R		L	L	M	H	H	H	H									
CS 203	Object-Oriented Programming II	R				M	M	M						M	M	M						
CS 210	Computer Organization	R			R	H	M	L							M	L		M				
CS 301	Algorithms & Complexity	R				L	M	L	L		M		L	M	H							
CS 320	Computational Theory	R				H	M			L		L	M		H	M						
CS 415	Operating Systems Design	R				H	H	H		M	M	M	H	H	H	H					M	
CS 420	Programming Languages	R				H	H	H		M	M	M	H	H	H	H						
CS 490R	Adv Topics in Computer Science (6 CR)	R				H	H	H					H		H	H						
IS 330	Management Information Systems					L	L		M	L	M	L	L	L			L					
IS 350	Database Management Systems	R	R	R	R	M	L	M	M	L	L	L	L	M	M	L	L	H	L			
IS 430	ITS – Enterprise Resource Planning			R			L	M	M	M	M	M	M	H			H		L		M	
IS 435	Advanced Concepts ERP Systems					H	H		H	L	M	M	M	H			H			L	H	
IS 485	Project Management & Practice			R		M	H	M	H	M	H	M	H	M	M	H	H	M				H
IT 220	Linux Essentials				R	M								M				M				
IT 224	Computer Hardware & Systems Software			R	R	M	H	L	M	L	M	L	L	L				M	M	L	L	
IT 240	Fund. Of Web Design & Technology			R	R	L	L	L		M	H	M		M		L	L	M	M	M	L	
IT 280	Data Comm. Systems & Networks	R	R	R	R	M	M	M		M	M		L	M				M	L	L		
IT 420	Linux System Administration				R	H	H	M						H				M	M	M		
IT 426	Computer Network Services				R	H	H	M	L	L	L	L	L	M				H	M	M	M	L
IT 440	Foundations of HCI				R	M	H	H	M	H	M	H	M	M			H	M	H	H	H	M
IT 480	Computer Network Design				R	H	H	H					L, M	H				M	M	M		M
IT 481	Information Assurance & Security				R		L	L		L	L	L	L	M				M	M	L	M	L
Math 112	Calculus I	O		R	#																	
Math 113	Calculus II	O			#																	
Math 119	Applied Calculus	R	O	O	#																	
Math 214	Mulitvariable Calculus				#																	

8.3 CLOs: Course Outcomes

CLO: Course Learning Outcomes (CLOs, also called Student Learning Outcomes, or SLOs) summarize the goals and outcomes for students who successfully complete this course. These support the PLOs, but are more specific.

Course Goals and Student Learning Outcomes are as follows:

By the conclusion of this course, students will demonstrate the ability to write clear and correct programs that utilize the following techniques.

- sequences of simple steps
- simple variables (scalars)
- decisions (if, else, elsif)
- looping (while, for, foreach)
- array and list variables
- subroutines

Students will demonstrate these major skills by creating, in timed and supervised situations, short programs that perform specific tasks.

In teaching the major skills, I also teach the following:

- dynamic web page creation
- dynamic response to web page inputs

9 General University Policies

9.1 Academic Integrity

Brigham Young University–Hawai'i is committed to upholding a policy of academic integrity among administrators, faculty, staff, and students. Basically we are talking about cheating here. We tell you what is acceptable and what is not.

9.1.1 Plagiarism

We learn by watching others and then doing something similar.

Plagiarism: Sometimes it is said that plagiarism is copying from one person, and research is "copying" from lots of people.

When you are having trouble with an assignment, I encourage you to look at not just one, but many examples of work done by others. Study the examples. See what you can learn from them. Do not automatically trust that they are right. They may be wrong.

http://en.wikipedia.org/wiki/Plagiarism has a wonderful article on plagiarism. Read it if you are not familiar with the term. Essentially, plagiarism is when you present the intellectual work of other people as though it were your own. This may happen by cut-and-paste from a website, or by group work on homework. In some cases, plagiarism may also create a violation of copyright law. If you borrow wording from someone else, identify the source.

Intentional plagiarism is a form of intellectual theft that violates widely recognized principles of academic integrity as well as the Honor Code. Such plagiarism may subject the student to appropriate disciplinary action administered through the university Honor Code Office, in addition to academic sanctions that may be applied by an instructor.

Inadvertent plagiarism, whereas not in violation of the Honor Code, is nevertheless a form of intellectual carelessness that is unacceptable in the academic community. Plagiarism of any kind is completely contrary to the established practices of higher education, where all members of the university are expected to acknowledge the original intellectual work of others that is included in one's own work.

Faculty are responsible to establish and communicate to students their expectations of behavior with respect to academic honesty and student conduct in the course. Observations and reports of academic dishonesty shall be investigated by the instructor, who will determine and take appropriate action, and report to the Honor Code Office the final disposition of any incident of academic dishonesty by completing an Academic Dishonesty Student Violation Report. If the incident of academic dishonesty involves the violation of a public law, e.g., breaking and entering into an office or stealing an examination, the act should also be reported to University Police. If an affected student disagrees with the determination or action and is unable to resolve the matter to the mutual satisfaction of the student and the instructor,

the student may have the matter reviewed through the university's grievance process.

9.1.2 Specific Rules For CIS 101

Exams: On exams you are required to work from personal memory, using only the resources that are normally present on your computer. This means the exams are closed book and closed notes. However, you are nearly always allowed (and encouraged!) to test your programs by actually running them on the computer where you are sitting. Students caught cheating on an exam may receive a grade of F for the semester, no matter how many points they may have earned, and they will be reported to the Honor Code office.

Other Than Exams:

Help each other, but do your own work.

These two goals are in conflict with each other. To resolve this conflict, I draw the line at copying.

Except during exams, you are strongly encouraged to work with your fellow students. We want everyone to get full credit on every assignment. Please help each other learn. That is the goal.

If You are Looking at Someone's Program:

You **may**: look, read, make mental notes, ask questions, point out possible errors, and try to understand.

You **must not**: fix someone else's program, take written notes, take pictures, take a copy of all or part of their program.

If Someone is Looking at Your Program:

You **may**: explain your approach, ask for help.

You **must not**: let them fix your program, give them a copy of all or part of your program.

This includes working with tutors or students who took the class in previous semesters.

9.1.3 Applicable Actions

http://honorcode.byuh.edu/ details the university honor code. In the section entitled "Applicable Actions" the following are listed.

Examples of possible actions include but are not limited to the following, for instructors, programs, departments, and colleges:

- Reprimanding the student orally or in writing.
- Requiring work affected by the academic dishonesty to be redone.
- Administering a lower or failing grade on the affected assignment, test, or course.
- Removing the student from the course.
- Recommending probation, suspension, or dismissal.

Depending on the specifics of the offense, any of these responses may be possible.

Cheating on exams is the most common form of dishonesty that I normally encounter. Normally this happens when students bring in notes that include answers to past exam questions. I approve the studying of past exams, and bringing in of "memories" based on study, but not the access to written notes, including notes retrieved from other exams or stored on cell phones or other devices. Any such activity, if caught, can result in failure of the entire course.

Cheating on activities is almost impossible to detect because I allow students to collaborate and assist each other. Copy and paste is not allowed, but it is difficult to detect and prove, so I normally do not bother. You should try to understand the work you submit because it helps you prepare for the exams and future courses.

9.2 Unlawful Discrimination

Brigham Young University–Hawai'i is committed to a policy of nondiscrimination on the basis of race, color, sex (including pregnancy), religion, national origin, ancestry, age, disability, genetic information, or veteran status in admissions, employment, or in any of its educational programs or activities.

9.3 Title IX and Sexual Misconduct

Brigham Young University–Hawai'i is committed to promoting and maintaining a safe and respectful environment for the campus community. In the USA, Title IX (Title 9) of the Education Amendments of 1972 prohibits all sexual misconduct against any participant in an educational program or activity.

Sexual Misconduct includes:

Sexual Harassment, which is unwelcome speech

or conduct of a sexual nature. It includes unwelcome sexual advances, requests for sexual advances, requests for sexual favors, and other verbal, nonverbal, or physical conduct that is not requested or invited.

Stalking, which is repeatedly following, monitoring, harassing, threatening or intimidating another by phone, mail, electronic communication or social media without legitimate purpose.

Domestic and Dating Violence, which is a pattern of abusive behavior in any relationship that is used by one partner to control another partner. This includes behaviors that intimidate, manipulate, humiliate, isolate, frighten, terrorize, coerce threaten, blame, hurt, injure, or wound.

Sexual Violence / Assault, which is actual or attempted sexual contact with another person without that person's consent.

Consent cannot be obtained when someone is a minor, under the influence of drugs or alcohol, or has certain disability. In the absence of an outward demonstration, consent does not exist. If at any time it is reasonably apparent that either party is hesitant, confused, or uncertain, both parties should stop.

The following individual has been designated to handle reports of sexual harassment and other inquiries regarding BYUH compliance with Title IX:

```
Debbie Hippolite-Wright, PhD
Title IX Coordinator
Vice President, Student Development & Life
Lorenzo Snow Administration Building
55-220 Kulanui Street
Laie, Hawaii 96762
Office Phone: 808-675-4819
E-Mail: titleix@byuh.edu
Sexual Harassment Hotline: 808-780-8875
```

BYUHs Office of Honor upholds a standard which states that parties can only engage in sexual activity freely within the legal bonds of marriage between a man and a woman. Consensual sexual activity outside the bonds of marriage is against the Honor Code and may result in probation, suspension, or dismissal from the University.

9.4 Services for Students with Special Needs

Brigham Young University–Hawai'i is committed to providing a working and learning atmosphere, which reasonably accommodates qualified persons with disabilities. If you have a disability and need accommodations, you may wish to self-identify by contacting:

```
Services for Students with Special Needs
McKay 181
Phone: 808-675-3518 or 808-675-3999
Email address: aunal@byuh.edu
```

The Coordinator for Students with Special Needs is Leilani A'una.

Students with disabilities who are registered with the Special Needs Services should schedule an appointment with the instructor to discuss accommodations. If the student does not initiate this meeting, it is assumed no accommodations or modifications will be necessary to meet the requirements of this course. After registering with Services for Students with Special Needs, and with permission of the student, Letters of Accommodation will be sent to instructors.

10 Syllabus Summary

Brigham Young University–Hawai'i has adopted certain requirements relating to the information that must be provided in syllabi. This section lists those requirements and for each item either provides the information directly or gives a link to where it is provided above.

Course Information: See section 2.1.

- **Title:** Beginning Programming
- **Number:** CIS 101
- **Semester/Year:** Fall 2015
- **Credits:** 3
- **Prerequisites:** none
- **Location:** GCB 111
- **Meeting Time:** AM section: MWF 11:00 to 12:00, PM section: MWF 13:20 to 14:20

Faculty Information: See section 2.2.

- **Name:** Don Colton
- **Office Location:** GCB 128
- **Office Hours:** (In GCB 111) MWF 12:10-12:40 and 14:30-15:00, TuTh 15:30-16:00.
- **Telephone:** 808-675-3478
- **Email:** doncolton2@gmail.com

Course Readings/Materials: See section 2.3 for a list of textbooks, supplementary readings, and supplies required.

Course Description: See section 2.1.

Expected Proficiencies:
See section 1.2 for the proficiencies you should have before undertaking the course.

Course Goals and Student Learning Outcomes, including Alignment to Program (PLOs) and Institutional (ILOs) Learning Outcomes, and extent of coverage.

See section 8 for learning outcomes, showing the content of the course and how it fits into the broader curriculum. A listing of the departmental learning outcomes is provided together with the ratings taken from department's matrix assessment document representing the degree to which the course addresses each outcome.

Instructional Methods: See section 6.

Learning Management System:
`https://dcquiz.byuh.edu/` is the learning management system for my courses.

Framework for Student Learning:
See section 6.1 for a discussion of the student learning framework and how I use it.

Course Calendar: See section 3 for the calendar in general.

Here are some items of particular interest:

- **First Day of Instruction:** Mon, Aug 03
- **Last Day to Withdraw:** Mon, Sep 28
- **Last Day of Instruction:** Wed, Oct 28
- **Final Exam:** AM section: Fri, Oct 30, 10:00 to 12:50, PM section: Fri, Oct 30, 13:00 to 15:50
- **Final Exam Location:** GCB 111

Course Policies: See section 7.

- **Attendance:** See section 4.2.
- **Tardiness:** See section 4.2.
- **Class Participation:** See section 6.1.2.
- **Make-Up Exams:** See section 7.2.
- **Plagiarism:** See section 9.1.1.
- **Academic Integrity:** See section 9.1.

Evaluation (Grading): See section 4.

Academic Honesty: See section 9.1.

Unlawful Discrimination: See section 9.2.

Title IX and Sexual Misconduct: See section 9.3.

Grievances: The university grievance policy states that the policies listed on the syllabus can act as a contract and will be considered if a student has a complaint about the instructor or the course.

Services for Students with Special Needs: See section 9.4.