



Institute For Cybersecurity Workforce Development  
SYLLABUS

CYBR 5210: Programming Principles   
Fall 2020

**Course Information**

****

Class meeting time: 100% online

Modality and Location: 100% online.

**Instructor Information**

****

**Name:** Dr. Zhigang Li

**Email:** zli8@kennesaw.edu   
**Office Location:** J378A

**Office Phone:** 404-578-4481

**Office Hours:** Monday 10am-12pm, Tuesday 2pm-4pm or online by appointment  
Preferred method of communication: D2L Email

**Course Description**

****

In this course, students analyze and formulate software solutions appropriate for an IT organization. Foundational program constructs, software design & development are covered. Object-oriented program constructs, software engineering concepts and IT organization requirements are covered. A research project on software design and development is required.

**Prerequisites:**

None.

**Course Materials**

****

**Required Texts:**

There is no required textbook. All learning materials will be provided in the D2L online learning environment.

**Recommended Texts:**

Title: Introducing Python, 2nd Edition (2020)

Author: Bill Lubanovic

Publisher: O'Reilly Media, Inc.

ISBN: 9781492051367

Note: Kennesaw State University Library’s Galileo has the subscription to the above eBook that you can access free of charge (See the instruction of accessing the eBook in this Start Here Learning Module).

Title: Starting Out with Python

Author: Tony Gaddis

Publisher: Pearson Education, Inc. Edition: 3rd Edition

ISBN: 13: 978-0-13-358273-4

**Technology requirements:**Students enrolled in this class are expected to have a highly functional level of technology literacy. Students should be able to upload, download, and modify files, including office documents, spreadsheets, PDFs, and presentation technologies as presented in this class. You may be expected to create a computer-based presentation (slides plus your recorded voice) during this course. While free software is suggested, you may use alternate applications. You are expected to become VERY familiar with Brightspace [a.k.a. Desire2Learn or D2L] especially posting and reading discussion forums and uploading assignments.

Technology support for KSU systems including D2L is available by emailing  [studenthelpdesk@kennesaw.edu](mailto:studenthelpdesk@kennesaw.edu) or calling 770-499-3555. Please do not email D2L problems to your instructor.

**Advising & Coordination**

****

**Advising:** All CYBR advising is conducted through the ICWD advising office, Ms. Kelley Price ([kgermain@kennesaw.edu](mailto:kgermain@kennesaw.edu); Ph. 470-578-3592) 3203 Campus Loop Road, Room 203. Advising appointments by phone or email.

**Course Coordinator:** zli8@kennesaw.edu

**Program Director:** TBA

**Learning Outcomes**

****

After completing this course, students will be able to:

1. Analyze, design, develop and implement programs in an object-oriented language to meet specific business requirements;
2. Analyze the needs of an enterprise in relationship to programming applications;
3. Conduct independent research on a subject related to the course material.

**Course Requirements and Assignments**

****

|  |  |  |
| --- | --- | --- |
| **Topic** | **Weight** | **Notes** |
| Tests | 20% | 2 Tests (2 @ 10% each). Test 1 covers modules 1-2. Test 2 covers modules 3-5. |
| Assignments | 46% | Orientation assignment (4%)  Programming assignments (6@7% each):  A1 – Write a program to ask for user input  A2 – Write a program using decision statements and loops  A3 – Write a program using functions  A4 – Write a program to read and write files  A5 – Write a program using lists/tuples  A6 – Write a program using classes/objects |
| Discussions | 14% | Weekly discussions on topics related to the module (7 @ 2% each)  Module 1 – Discussion on hardware and software elements  Module 2 – Discussion on control structure  Module 3 – Discussion on functions and variable scopes  Module 4 – Discussion on file input/output  Module 5 – Discussion on list/tuple/dictionary/set  Module 6 – Discussion on object-oriented programming languages  Module 7 – Discussion on software requirements |
| Research Paper | 20% | 5-8 page paper related to software development |

**Evaluation and Grading Policies**

****

|  |  |
| --- | --- |
| **Grading Scale** | |
| 90% - 100% | A |
| 80% - 89% | B |
| 70% - 79% | C |
| 60% - 69% | D |
| 0% - 59% | F |

The instructor will make every effort to have major components (midterm/final exams) graded within 1 week, and other assignments within 2 weeks. Email the instructor if you do not see your grade posted within the time limit.

All assignments will be graded for correctness and completeness. The instructor retains the right to subjectively adjust an individual student's grade in appropriate cases, based upon observed performance. All assignment submissions must be spell- and grammar-checked. Students failing to present the information completely, professionally written and in the prescribed format will receive minimal credit for their work. Students should double check their work before submitting assignments.

**Course Policies**

****

The learning materials provided, and assignments will be the basis for the exams. During the term, you will complete 8 individual programming assignments, 2 exams, a research project and 12 discussions.

Individual programming assignments are posted and must be submitted in D2L in the appropriate assignment link by the due date as noted on the assignment link and calendar. DO NOT EMAIL YOUR ASSIGNMENTS! Emailed assignments do not show up in D2L to receive a grade. You will be graded on your D2L individual programming assignments submission of a completed application which fulfills stated requirements as posted for each of the lab assignments. Missed individual programming assignments will result in a grade of ZERO for that grade component. Individual programming assignments will be accepted up to 24 hours late with a late penalty of 10%. Individual programming assignments have specific requirements to be completed. Be sure to submit all required files.

You are required to complete the exams at the times noted on the schedule. The exams must be completed within the designated timeframe.

**Attendance Policy**

You should check into D2L daily. You are responsible for all material and announcements in the news tool and D2L email. You are required to complete and submit the assigned Module Assignments, Discussions and Exams in D2L by the Sunday of the Module.

**Department or College Policies**

****

**Accessibility Compliance Statements:**

Where available, ADA policies are provided.  Where not specified or available, the instructor will work with the Department of Student Disability Services to provide reasonable accommodation for students with documented issues:

* University System of Georgia:

<http://www.usg.edu/siteinfo/higher_education_the_americans_with_disabilities_act_and_section_508>

* USG Web Accessibility :<http://www.usg.edu/siteinfo/accessibility>
* KSU Policies:

<http://accessibility.kennesaw.edu/> and <http://studentsuccess.kennesaw.edu/sds/guidelines/institutional-policies.php>

* Microsoft (including Office):

<https://www.microsoft.com/en-us/accessibility/accessibility-conformance-reports>

* Desire 2 Learn (D2L): <https://www.d2l.com/accessibility/>
* Kaltura (a.k.a. MediaSpace - KSU's video server platform): <https://corp.kaltura.com/products/core-platform/video-accessibility>
* Adobe Acrobat (PDF Reader): <http://www.adobe.com/accessibility.html>

**Privacy Compliance Statements:**

Where available, privacy policies are provided.  Where not specified or available, I will gladly work with the student and appropriate university agency to ensure appropriate protections.

* USG Web Accessibility :<http://www.usg.edu/siteinfo/web_privacy_policy>
* KSU UITS Policies: <https://policy.kennesaw.edu/policy/information-technology>
* Microsoft (including Office): <https://privacy.microsoft.com/en-us/privacystatement>
* Desire 2 Learn (D2L): <https://www.d2l.com/legal/privacy/>
* Kaltura (a.k.a. MediaSpace - KSU's video server platform): <https://corp.kaltura.com/privacy-policy>
* Adobe Acrobat (PDF Reader): <http://www.adobe.com/privacy.html> Compliance Shield: <https://informationshield.com/privacy-policy>
* Clearwater Compliance: <https://clearwatercompliance.com/privacy-policy/>

Additional supplemental resources will be provided by the instructor.

**Online Learning:**Student attending this class should realize the nature of the course they are enrolled in. This is a completely online class. There will be NO face-to-face interactions expected of between the students and the instructor. Students are always encouraged to interact with the instructor via discussion posts for topics of interest to the entire class or email for items that are personal or confidential. Students will also interact with each other virtually, through online discussions in D2L, and through assignments. In order to ensure the student does not fall behind it is STRONGLY encouraged that students keep to the schedule suggested in this syllabus in the Schedule section below. Some classes have periodic reporting requirements, while others do not. If this class does not, the student should make a concerted effort to maintain currency and not wait until the last minute to complete assignments. Every reasonable effort is being made to facilitate quality learning in this online format.

KSU has a variety of support services to facilitate student learning and engagement.  These resources will include descriptions of student services and resources, including how learners can use them to succeed and how learners can obtain them:

* Student Success Services department <http://studentsuccess.kennesaw.edu/>
* Department of Student Engagement <http://studentengagement.kennesaw.edu/>
* Department of Student Life <http://studentlife.kennesaw.edu/>
* Writing center <http://writingcenter.kennesaw.edu/>
* KSU Library <http://library.kennesaw.edu/>
* UITS Student Training (OwlTrain) <http://uits.kennesaw.edu/support/training.php>
* College Undergraduate Advising Services <http://coles.kennesaw.edu/programs/undergraduate/academic-advising.php>
* Graduate University Student Services <http://graduate.kennesaw.edu/students/>
* Undergraduate Student Government <http://sga.kennesaw.edu/>
* Graduate Student Association <http://graduate.kennesaw.edu/students/gsa.php>

The preferred mode of communications with the instructor is via discussion postings in D2L for all topics suitable for public discussion (anything you would typically feel comfortable raising your hand and asking in a physical class) and email for personal or confidential issues. While other email access may be available, only emails from your kennesaw.edu accounts, with the course number in the subject are guaranteed responses. The instructor will endeavor to respond to email questions within 2 business days, sooner if at all possible.

**Minimum Technology Requirements:**In order to complete this course the student must have access to the following technologies:

* A computing device - desktop, laptop, tablet or smart phone capable of:
  + accessing Internet-based content
  + displaying recorded video
  + playing recorded audio - with speakers or headphones
  + recording audio - with microphone or headset
  + capturing your image and actions during exams - with a web camera (see RLDB & Respondus Monitor)
* Internet access of sufficient speed to download/display recorded lectures
* Freeware or trialware software capable of creating slide + audio presentations Standard office productivity applications similar to MS Word, Excel & Powerpoint, and Adobe Reader
* A printer (for printing course calendar, etc.)

**Academic Integrity Statement:**Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section II of the Student Code of Conduct addresses the University's policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to University materials, misrepresentation/falsification of University records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards.

Incidents of alleged academic misconduct will be handled through the established procedures of the University Judiciary Program, which includes either an "informal" resolution by a faculty member - resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct's minimum one semester suspension requirement. Students are encouraged to study together and to work together on non-exam class assignments and lab exercises; however, the provisions of the STUDENT CONDUCT REGULATIONS, II. Academic Honesty, KSU Undergraduate Catalog will be strictly enforced in this class.

***Students caught violating the KSU policy on Academic Integrity in this courses will be subject to the following:***

First the instructor will query the KSU SCAI office to determine if the student has a prior SCAI violation.  if the student does, the entire case will automatically be deferred to the SCAI office for processing.

If not, the student will then be notified by KSU email as to the potential or alleged violations of KSU SCAI policy. If the instructor feels the evidence is sufficient, they will also include an informal penalty. Students have 2 business days (48 hours) to respond to the instructor, providing any information or justification for their actions. They will also indicate whether they a) acknowledge their responsibility and fault in the allegations and accept the offered informal penalty or b) refute any allegations, or deny responsibility, and request a formal hearing by the KSU SCAI office. Failure to respond within this period will be viewed as a default admission of guilt of any alleged violations, and the case referred to SCAI for a hearing.

*For a first offense (in this course) a 0 (zero) on the assignment in question, and up to an "F" for the course, at the discretion of the instructor.  
For a second offence (in this course) an “F” will be assigned for the course, at the discretion of the instructor.  
All documented Academic Integrity violations WILL BE reported to the KSU Student Conduct and Academic Integrity Office for filing.*

Students accepting the informal resolution MUST remain in the course for the duration of the term. Students charged with SCAI violations who subsequently drop the course will automatically be referred to the SCAI office, without further discussion, even if the student has accepted the informal resolution.   Any student referred to the SCAI office for formal review will be subject to SCAI hearings and possibly a mandatory 1-semester suspension on 1st offense or 1-year suspension on 2nd offense.

All assignments, exams, projects, papers, etc., must be the original work of the student. Original work may include the thoughts and words of others, but such thoughts or words must be identified using quotation marks or indentation and must properly identify the source. At all times, students are expected to comply with the department's accepted citation practice and policy. The University and its faculty are committed to maintaining high standards of academic integrity. Student work will be routinely submitted to plagiarism detection tools (such as those at www.turnitin.com) for review.

Work is not original when it has been submitted previously by the author or by anyone else for academic credit. Work is not original when it has been copied or partially copied from any other source, including another student, unless such copying is acknowledged by the person submitting the work for credit at the time the work is being submitted, or unless copying, sharing, or joint authorship is an express part of the assignment. Exams and tests are original work when no unauthorized aid is given, received, or used before or during the course of the examination, reexamination, or remediation.

***In accordance with KSU Policy:***“Engaging in any behavior which a professor prohibits as academic misconduct in the syllabus or in class discussion is cheating. When direct quotations are used, they should be indicated, and when the ideas, theories, data, figures, graphs, programs, electronic based information or illustrations of someone other than the student are incorporated into a paper or used in a project, they should be duly acknowledged. No student may submit the same, or substantially the same, paper or other assignment for credit in more than one class without the prior permission of the current professor(s).”

This request MUST be in writing (KSU email is acceptable).  This also includes work performed in a previous semester for the same course (e.g. retake of an IS/ISA class).

For the complete SCAI policy visit <https://web.kennesaw.edu/scai/content/ksu-student-code-conduct>, from which this information was copied and/or adapted.

**Use of Paraphrasing Tools:**Recently students have begun using online paraphrasing tools in an effort to avoid TII issues. In order to avoid any confusing or ambiguity in the use of these tools, the use of all such tools is hereby prohibited in this course.  Any student caught using a paraphrase tool on an assignment will have their assignment treated like any other plagiarized submission, and thus will be subject to SCAI procedures.

**TurnItIn & D2L:**Any written assignments (including essay questions for the exams) assigned in the course will be evaluated by D2L’s TurnItIn (TII) module. Therefore, most written submissions will be submitted in a two phase approach:

* A complete draft version of the assignment must be submitted to D2L no later than 24 hours prior to the date/time specified in D2L. Once you receive your originality report, you may revise and resubmit it as often as you like to D2L until the due date. Note that TII may take an hour for a subsequent report.
* A final version of the assignment must be to the same D2L submission folder by the due date and no sooner than 1 hour from the submission time of the draft.  The final version will also be reviewed for originality. The final version will count as the final assignment grade as specified by the instructor in the grades area above, using the appropriate rubric. Part of your grade will assess whether you submitted a draft, and whether you improved the TII flagged content from the draft to the final version.
* As a general rule, ***ignore the originality score***, instead review the report for flagged content.  Any flagged content not directly attributable to instructor-provided materials must be rewritten, unless it is considered common usage. (e.g. "Michael J. Coles College of Business, Kennesaw State University" - may be flagged but can be safely ignored).
* If a student only uploads a single version, that version will be deemed final and graded as such, even if the student intended it to be a draft.  This version will be reviewed for potential TII violations.
* The minimum penalty for failing to submit a complete draft 24 hours prior to the assignment's due date/time AND a FINAL version at least an hour later, is 10% of the value of the assignment.

**Respondus Lock Down Browser (RLDB) & the Respondus Monitor:**This course requires the use of LockDown Browser and a webcam and microphone for online quizzes and exams. The webcam and microphone can be built into your computer or can be the type that plugs in with a USB cable.  Student Guides for both the RLDB and the Monitor are available in D2L. Download and install LockDown Browser from the link provided when you click on the Syllabus & Course Policy Compliance Quiz.

To ensure LockDown Browser and the webcam are set up properly, do the following:

1. Start LockDown Browser, log into D2L, and select this course.
2. Locate and select the Help Center button on the LockDown Browser toolbar.
3. Run the Webcam Check and, if necessary, resolve any issues.
4. Run the System & Network Check. If a problem is indicated, see if a solution is provided in the Knowledge Base.
5. Troubleshooting information can also be emailed to our institution's help desk.
6. Exit the Help Center and locate the Syllabus quiz.
7. Upon completing and submitting the Syllabus quiz, exit LockDown Browser.

When taking an online exam that requires LockDown Browser and a webcam, remember the following **requirements**:

1. Ensure you're in a location where you won't be interrupted
2. Turn off all other devices (e.g. tablets, phones, second computers)
3. Clear your desk of all external materials not permitted — books, papers, other devices
4. Remain at your computer for the duration of the test
5. If the computer or networking environment is different than what was tested above, repeat the Webcam and System checks prior to starting the test

 To produce a good webcam video, comply with the following **requirements**:

1. Avoid wearing baseball caps or hats with brims
2. Ensure your computer or tablet is on a firm surface (a desk or table) — not on your lap, a bed, or other surface that might move
3. If using a built-in webcam, avoid tilting the screen after the webcam setup is complete
4. Take the exam in a well-lit room and avoid backlighting, such as sitting with your back to a window
5. Remember that LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted.

Failure to comply with these requirements, including any evidence of the use of outside resources (books, papers or other devices), or leaving the video frame for any reason once you have begun a quiz/exam will be considered academic misconduct, and may result in a grade penalty and possibly SCAI proceedings.

If you object to installing the Respondus Lockdown Browser and Monitor on your computer, or to being video recorded taking your exam at your home or office, you may elect to take all required exams at the KSU testing center at your own expense, as there is a fee to take a quiz/test at the testing center.  Visit the testing center's web site at <https://testing.kennesaw.edu/> to schedule an appointment or for more information.  When you schedule an appointment at the testing center, they will contact me for the parameters of the exam.  You will then be recorded taking the quiz/exam at the testing center under the conditions specified in the exam. Alternatively you may check out a computer at the library or use another on-campus system that is configured for such access.

**Institutional Policies**

****

**Federal, BOR, & KSU Course Syllabus Policies:** <http://curriculum.kennesaw.edu/resources/federal_bor_ksu_student_policies.php>

[**Student**](http://curriculum.kennesaw.edu/resources/ksu_student_resources_for_course_syllabus.php) **Resources:**<http://curriculum.kennesaw.edu/resources/ksu_student_resources_for_course_syllabus.php>  
 **Academic Integrity Statement:**   
<http://scai.kennesaw.edu/codes.php>

**KSU Student Resources**

****

This link contains information on help and resources available to students: <https://curriculum.kennesaw.edu/resources/ksu_student_resources_for_course_syllabus.php>

**Security Resources:**

* KSU Institute for Workforce Development Resource Page at <https://cyberinstitute.kennesaw.edu/resources.php>
* KSU Offensive Security Research Club at <https://owllife.kennesaw.edu/organization/ksu_offsec>
* The Computer Security Resource Center at the National Institute of Standards and Technology <http://www.csrc.nist.gov/>
* The SANS Institute (System and Network Security) at http://www.sans.org
* Information Security Magazine at http://www.infosecuritymag.com/
* Carnegie Mellon SEI CERT/CC at http://www.cert.org
* ACM Special Interest Group on Security, Audit and Control (SIGSAC) at http://www.acm.org/sigsac/
* Metro Atlanta Information Systems Security Association (ISSA) at <http://www.gaissa.org/>
* Metro Atlanta Information Systems Audit and Controls Association (ISACA) at <https://engage.isaca.org/atlantachapter/home>

**Course Schedule**

****

Below is an outline of the content and activities in each module of the course based on 7-week II scheduling block. Course schedule is tentative and subject to change. Use D2L calendar for accurate due dates of grading items. All due dates are based on US eastern time zone.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Week** | **Module** | **Topic** | **Discussion** | **Assignment** | **Test** |
| 1 | 0 | Start Here | Intro Disc | Orientation Assignments |  |
| 1 | Introduction to Python | Disc 1 | A1 |  |
| 2 | 2 | Control Structures | Disc 2 | A2 |  |
| 3 | 3 | Functions | Disc 3 | A3 | Test1 |
| 4 | 4 | Files and Strings | Disc 4 | A4 |  |
| 5 | 5 | Sequence and Set | Disc 5 | A5 |  |
| 6 | 6 | Object-Oriented Programming | Disc 6 | A6 |  |
| 7 | 7 | SDLC and Software Requirements | Disc 7 | Research Paper | Test2 |