ISIT 324 – Software Testing

W, 3:00pm – 5:10pm in N252

**Instructor:** Dennis Minium – **dennis.minium@bellevuecollege.edu**  
**Email:** Use the campus email system or Canvas.   
**Office hours:** By appointment only. See details in [Course Overview](#_Course_Overview) section.

**Required text:** None.

**Required software:** Microsoft Visual Studio 2019, Enterprise Edition. This application is available for student use at no cost through [Azure Dev Tools for Teaching](https://azureforeducation.microsoft.com/devtools).

Note that ISIT 324 is a hybrid class. That means that there is just one class meeting per week, but the volume of material covered is the same as that of an on-campus class.

# Course Description

This class will present students with practical techniques and strategies to use in software testing and quality assurance. Students will be exposed to testing concepts including how to design, develop and document different kinds of tests.

## Prerequisites

Admission to the Application Development concentration of the ISIT program, or permission of the instructor.

## Outcomes

* Use basic and advanced software testing techniques to design test cases appropriate to a variety of software scenarios.
* Design test cases for a variety of test types.
* Document testing scenarios then create and execute test cases.
* Design test cases to test software security.
* Document testing results accurately and thoroughly.
* Create automated tests by writing appropriate software code using current testing tools.
* Differentiate between testing and quality assurance.

**All elements of this syllabus are subject to change at the instructor’s discretion**.

## Mutual Expectations

### Students are expected to:

* Check the course homepage, calendar, course email and assignments at least three times per week.
* Post comments and responses to the discussion board as required.
* Keep up with reading assignments and other course materials. Make sure you have done the required reading for the week before going any further with each week’s learning module.
* Make sure you submit all work on time; deadlines are firm unless you have notified the instructor in advance and received approval for late submissions.
* There is no allowance for late submissions, so make sure to get your work done on time. If you miss the deadline, your submission may not be accepted. Plan ahead.
* Ask questions if you find that explanations are not clear. Chances are that others will have the same question. Unless a question is of a personal nature, please use the discussion boards.
* Have a real photo image of yourself on your profile to help me to learn your name.

### The instructor will:

* Read email and discussion board postings at least daily, but will not necessarily post messages or respond to email daily.
* Respond to student email within 24-48 hours (48 hours on weekends) – instructor response is typically faster but not guaranteed.
* Respond to urgent student email within 24 hours (instructor will determine urgency.)
* If a student question appears to be one that others will benefit from hearing discussed, you might be asked to post the question in the main course discussion.
* Grades and comments will be posted within one week of assignment submissions
* Campus email is preferred for all course-related communication.

## Computer availability

The software necessary to complete this course, and many of your other courses, is installed on PCs in Bellevue College’s Open Computer Lab, located in room N250.

## If you need additional help…

* For technical help, visit the [helpdesk site](http://depts.bellevuecollege.edu/helpdesk/students/computerlabs/). They can help you with your accounts, with software, with Canvas, and other issues you might experience.
* Tutoring is available through the [Academic Success Center](http://www.bellevuecollege.edu/asc/tutoring/).
* I’m here to support you, so please feel free make an appointment with me if you need any help.
* If you have an issue with the class, please come to me. If you don’t feel comfortable discussing your concerns with me, you may contact the IBIT Assistant Dean, [Sylvia Unwin](mailto:sunwin@bellevuecollege.edu).

# Grading

## Grades

These are the elements of coursework on which grades in this course are based. Each is explained in more detail below. The weightings are approximate.

|  |  |
| --- | --- |
| Coursework | Points |
| In-Class Exercises | 10% |
| Quizzes | 20% |
| Homework Assignments | 30% |
| Midterm Exam | 20% |
| Final Exam | 20% |
| Total | 100% |

## In-Class Exercises

In-Class exercises are held during class meetings. Most are group activities intended to solidify the concepts learned in class. For in-class exercises there is no makeup offered; you must be present to earn points. There will be no exceptions. Scores are ternary: Acceptable solutions earn 100%, subpar solutions earn 70%, and failure to submit earns 0%.

## Quizzes

Quizzes test your knowledge of the reading material, lectures and additional materials as appropriate. Quizzes will always be announced, either in class or through a Canvas announcement. They may take place in class or as outside work. Quizzes conducted in class may be closed-book. I’ll announce whether a quiz is open- or closed-book in advance.

## Homework Assignments

Homework assignments are practical applications of concepts you’ve learned through reading, lectures or additional materials. They may require submission of code. For each homework assignment you’ll be given at least one week.

Most homework assignments will be due immediately before the following class. I’ll go over these assignments in class, so I may not accept late submissions. See the late policy below.

## Exams

There will be a midterm and a final. Each is timed and each is open book.

## Final Exam

The final exam will be held on campus at the date and time specified in the [Final Exam schedule](https://www.bellevuecollege.edu/courses/exams/). It will be comprehensive and may require coding.

## 

## Grading scale

Note that this scale may be different from what you’ve seen in other classes.

Letter grades in this course are based on the following percentages:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Percentage | Grade | Points | Percentage | Grade | Points |
| 96 - 100 | A | 4.0 | 76 - 79.9 | C+ | 2.3 |
| 92 - 95.9 | A- | 3.7 | 72 - 75.9 | C | 2.0 |
| 88 - 91.9 | B+ | 3.3 | 70 - 71.9 | C- | 1.7 |
| 84 - 87.9 | B | 3.0 | 66 - 69.9 | D+ | 1.3 |
| 80 - 83.9 | B- | 2.7 | 60 - 65.9 | D | 1.0 |
|  |  |  | Below 59.9 | F | 0.0 |

## Tentative Course Outline

|  |  |  |
| --- | --- | --- |
| Week | Dates | Themes |
| 1 | 2020.01.02 – 2020.01.05 | The Rationale for Testing – Part 1 |
| 2 | 2020.01.06 – 2020.01.12 | The Rationale for Testing – Part 2 |
| 3 | 2020.01.13 – 2020.01.19 | Testing throughout the lifecycle |
| 4 | 2020.01.20 – 2020.01.26 | Test Automation |
| 5 | 2020.01.27 – 2020.02.02 | Tool Support for Testing |
| 6 | 2020.02.03 – 2020.02.09 | **MidTerm** |
| 7 | 2020.02.10 – 2020.02.16 | Test-Driven Development |
| 8 | 2020.02.17 – 2020.02.23 | Test Doubles |
| 9 | 2020.02.24 – 2020.03.01 | Designing Tests – Part 1 |
| 10 | 2020.03.02 – 2020.03.08 | Designing Tests – Part 2 |
| 11 | 2020.03.09 – 2020.03.15 | Web testing |
| 12 | 2020.03.19 | **Final Exam:** 1:30 PM – 3:20pm |

**Please note that this schedule is subject to change at my discretion.**

# Policies

## Late Assignments

* Late submissions will not be accepted after the due date for any assignment unless there are extenuating circumstances. You must make me aware of such circumstances before the assignment is due.
* Exams and other timed assignments, if any, will be accepted after time expires but will be subject to a penalty. The point value of the deduction for each assignment appears in the assignment’s description. Note that timed assignments must be turned in before the due date and time.

## Withdrawal

Students are expected to be familiar with the college withdrawal policy and schedule, as shown in the [Enrollment Calendar.](http://bellevuecollege.edu/enrollment/calendar/deadlines/#Winter-2012) Students not withdrawing will receive a grade based on the number of points earned divided by the total number of points offered for the quarter. Incompletes are not given. A grade will be reported for every student remaining on the class roster after the deadline to withdraw.

## Cheating and Plagiarism

Students are expected to conduct themselves with honor and integrity. If you choose to cheat and/or in

Cheating includes but is not limited to:

* Turning in assignments or exams that have been used in other classes, including a previous enrollment in this class by you or another person. All work is expected to be original and current work done by you
* Copying answers on any written or practical exam
* Two different people working together on the same assignment and submitting the same file (or portion of a file) from each person as individual work
* Giving and/or receiving help during an exam – all exams are expected to be individual work
* Disk/media copying, purchasing/selling/requesting answers to any portion of the course
* Misrepresenting file creation dates in any way

If you cheat, some, or all, of the following actions may be taken:

* You will receive a grade of zero on the assignment or exam. This item may not be resubmitted for credit or review.
* A report of the incident will be sent to the VP of Student Affairs who may file a report in your record and/or take other disciplinary action.
* If you are involved in more than one cheating incident in this class, you may be given an “F” grade for the course.

Specific student rights, responsibilities, and appeal procedures are listed in the Student Code of Conduct at: [Student Code](http://www.bellevuecollege.edu/policies/id-2050/).

## Respect and Civility Affirmation of Inclusion

Bellevue College is committed to maintaining an environment in which every member of the campus community feels welcome to participate in the life of the college, free from harassment and discrimination. We value our different backgrounds at Bellevue College, and students, faculty, staff members, and administrators are to treat one another with dignity and respect. For more information, visit the [Affirmation of Inclusion site](http://www.bellevuecollege.edu/inclusion/).

## Religious Holidays

Students who expect to miss classes, examinations, or any other assignments because of their religious observance should provide faculty with reasonable notice of the dates of religious holidays on which they will be absent at the beginning of the term. Class assignments can be submitted early. Arrangements for submitting work after the due day will be discussed and coordinated in advance.

## College Anti-Discrimination Statement (Title IX)

Bellevue College does not discriminate on the basis of race or ethnicity; color; creed; national origin; sex; marital status; sexual orientation; age; religion; genetic information; the presence of any sensory, mental, or physical disability; gender identity or veteran status in educational programs and activities which it operates. For more information and contacts, please consult [College Anti-Discrimination Statements.](http://www.bellevuecollege.edu/titleix/)

## Confidentiality and Mandatory Reporting

As an instructor, one of my responsibilities is to help create a safe learning environment on our campus. It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep information you share private to the greatest extent possible. However, I am required to share with the Title IX Coordinator any and all information regarding sexual assault and other forms of sexual misconduct (e.g. dating violence, domestic violence, stalking) that may have occurred on campus or that impacts someone on campus. Students may speak to someone confidentially by contacting the BC Counseling Center at (425) 564-2212. The Title IX Office can be contacted at 425-564-2641 and more information can be found at Title IX (<http://www.bellevuecollege.edu/titleix/> ). If you have any concerns, you may report to: Report Concerns (<https://www.bellevuecollege.edu/reportconcerns/> ).

# Additional Resources

## Disability Resource Center (DRC)

The Disability Resource Center serves students with a wide array of learning challenges and disabilities. If you are a student who has a disability or learning challenge for which you have documentation or have seen someone for treatment and if you feel you may need accommodations in order to be successful in college, please contact the DRC as soon as possible.

The DRC office is located in B 132 or you can call the reception desk at 425.564.2498. Deaf students can reach the DRC by video phone at 425-440-2025 or by TTY at 425-564-4110.

The DRC website has many helpful links about the program and information about applying at <http://www.bellevuecollege.edu/drc>

## Academic Success Center

To find out about free tutoring services for enrolled students in PROG 110, contact the Academic Success Center: <https://www.bellevuecollege.edu/asc/tutoring/>

## Public Safety

Public Safety is temporarily located in D171 (The entrance to the Public Safety Office is through D175, the Printing Services lobby) and can be reached at 425-564-2400. Among other things, Public Safety serves as our Parking Permits, Lost and Found, and Emergency Notification center. Please ensure you are signed up to receive alerts through our campus alerting system by registering at [RAVE Alert Service.](http://www.bellevuecollege.edu/alerts/rave/)

Please familiarize yourself with the emergency postings by the door of every classroom and know where to go in the event of an evacuation. Your instructor will be asked if anyone might still be in the building, so check in before you do anything else. Emergency responders will search for anyone unaccounted for.

If a major emergency occurs, please follow these two rules:

1. Take directions from those in charge of the response - We all need to be working together.
2. **Do not get in your car and leave campus** (unless directed to) - Doing so will clog streets and prevent emergency vehicles from entering the scene. Instead, follow directions from those in charge.

Please do not hesitate to call Public Safety if you have safety questions or concerns at any time.