Location and Meeting Time
Class meeting schedule: In-person
Wednesday
  • Nicks Hall 436 5pm-7:45pm

Contact Information
Instructor: Jeffrey Roach, Ph.D.
Email: roachj@etsu.edu (preferred)
Office: Nicks 473 / Zoom
Phone: 423-439-6966

Instructor Availability
Office Hours
   10 minutes per student
   In person: Tue & Wed: 1:30pm to 3:30pm
    ➢ Nicks 473
   Zoom: Mon: 5pm-6pm, Thu: 1:30pm-2:30pm
    ➢ Please email me to set up a meeting time
    ➢ https://etsu.zoom.us/j/4234396966

Email Hours
I should be able to respond to emails Mon-Fri, 9:00am-4:00pm within a reasonable turnaround time. I do not respond to emails on weekends.

Course Overview
Course Purpose and Objectives
This course addresses the theory and practice of ensuring high-quality software products. Topics covered include quality assessment, proof of correctness, testing, and limitations of verification and validation methods.

Expected Learning Outcomes
At the end of this course, the student should be able to:
1. Create, execute, and evaluate verification and validation plans
2. Write and execute tests of software models
3. Write and execute test cases and evaluate the results
4. Create unit, integration, and system test plans
5. Write and execute usability tests
6. Demonstrate an understanding of the basics of formal methods of verification
7. Demonstrate an understanding of the principles of testing web applications
8. Use and interpret testing metrics
9. Explain and justify software V&V
10. Utilize various software V&V techniques
11. Choose the most appropriate V & V technique given a software development activity
12. Use various automated software testing frameworks

Prerequisites
For success in this course, you need to be able to write computer software programs, understand the software development process, and develop a software application in a team environment.

Materials
Required Textbook
There is no required textbook.

Reference Books

Computing Databases Library Link
- https://libraries.etsu.edu/az.php?s=119368

Additional Tools
- We will use astah* (https://astah.net/products/astah-professional/) for our UML modeling.
- Visual Studio Community 2022
  - Download from https://visualstudio.microsoft.com/vs/
  - Workloads
    - ASP.NET and web development
    - Data storage and processing
    - .NET desktop development
    - .NET cross-platform development

Course Policies

Attendance
Attendance is expected.

Assignment and Grading

- Various Assignments
  - You must show your code and demonstrate your solution to the assignment to me

Grade Assignments

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numeric Score</th>
<th>Calculated As</th>
<th>Grade Range (inclusive) Rounding may be applied</th>
<th>Interpretation</th>
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</thead>
<tbody>
<tr>
<td>A+ *</td>
<td>1</td>
<td>100</td>
<td>93 to 100</td>
<td>Perfect</td>
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<tr>
<td>A</td>
<td>.95</td>
<td>95</td>
<td>90 to 92</td>
<td>Excellent</td>
</tr>
<tr>
<td>A-</td>
<td>.91</td>
<td>91</td>
<td>87 to 89</td>
<td>Very good</td>
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<td>88</td>
<td>83 to 86</td>
<td>Good (high)</td>
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<tr>
<td>B</td>
<td>.85</td>
<td>85</td>
<td>80 to 82</td>
<td>Good</td>
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<tr>
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<td>.81</td>
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<td>77 to 79</td>
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<tr>
<td>C+</td>
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<td>61</td>
<td>Mediocre</td>
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<tr>
<td>D *</td>
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<td>61</td>
<td>.5/.4/.3/.2/.1 50/40/30/20/10 Less than 70</td>
<td>Poor</td>
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<tr>
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<td>50/40/30/20/10</td>
<td>Less than 70</td>
<td>Fail</td>
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</tbody>
</table>

* These letter grades are not used for final grades for graduate classes

Expectations
Students should expect the instructor to be in class on time, to be prepared, to be attentive to students, to be available to answer questions and provide help related to the course, and to make a genuine effort to help
students achieve course objectives. On those rare occasions when the instructor must miss class, students should expect suitable arrangements for the class to continue in the instructor’s absence. Students should expect the instructor to devote reasonable time and effort to the course.

Similarly, the instructor expects students to be in class on time, be prepared, be attentive and participate in class, complete assignments on time, make a genuine effort to meet the course objectives, and devote reasonable time and effort to the course. Be prepared to spend a minimum of 6 hours outside of class per week.

You are strongly encouraged to ask appropriate questions and to participate in class discussions and activities. You may learn as much from each other as from the instructor. If you are confused about some point, chances are that others are also confused and will appreciate that you ask for clarification.

**Academic Integrity Policy**
- You are encouraged to discuss course material, including assignments, with members of the class and others. Helping one another find and understand problems in assignments is permitted if an honest individual attempt has been made to solve the problem.
- Do not submit another person’s work as your own, this is academic misconduct.
- Do not give someone else your solution, this is academic misconduct.
- Everyone must do his/her own work. Use of another person’s work (if allowed) must be properly cited.
- Completing an assignment “by committee” and submitting it as an individual work is academic misconduct unless the assignment has been designated as a team assignment.
- Your name on submitted work is an affirmation that the work is yours.

**Policies for this course**
All submitted work MUST be your OWN work! This applies to class work, papers, projects, labs, and exams. In cases of academic misconduct, the following rules will apply:
1. No credit for the assignment
2. A report submitted to the college
3. One letter grade decrement for each incident from the final grade
4. Other penalties may apply
5. The instructor reserves the right to reevaluate past assignments

**Grades and Course Content**
- Grades and course content will be made available through D2L.

**ETSU Coronavirus Policy**
- [https://www.etsu.edu/coronavirus/](https://www.etsu.edu/coronavirus/)

**Additional Policies**
- Syllabus Attachment