



## ATE-252: Explorations in transportation innovation (Experimental)

Syllabus | Spring 2020 | Sec: WH31  
Saturdays 10:00 am - 1:00 pm

instructors:	<b>Patricia Thompson</b> <b>Bob Koch</b> <b>Eric Darsow</b>
office Hours:	<b>Saturdays 1-2pm (After class)</b>
semester:	<b>Spring 2020</b>
instructor Contact methods:	<b>Patricia Thompson:</b> <a href="mailto:pthompson@ccac.edu">pthompson@ccac.edu</a> <b>Bob Koch:</b> <a href="mailto:rkoch@ccac.edu">rkoch@ccac.edu</a> <b>Eric Darsow:</b> In-person preferred, followed by phone calls: 412.894.3020 (no email)
automotive department: contact	Automotive Technology and Engineering department 412.788.7500 CCAC West Hills Center 1000 McKee Road Oakdale, PA 15071
CIT/DAT department chair:	<b>Professor Rebecca Elinich</b> <a href="mailto:relinich@ccac.edu">relinich@ccac.edu</a>
course Credits:	<b>3.0</b>
prerequisites:	<b>None!</b>

### I: Course Description:

Modern transportation systems increasingly involve computerized mechanisms for control, analysis, and design. Drawing on the tools and methods of automotive technology, mechatronics, and data analytics, students explore transportation related problems through hands-on, project-based learning in each discipline. Students will draw on problem-solving frameworks used by each discipline to generate innovative ideas for presentation to industry partners. As a survey course, students from all academic disciplines at any stage of degree progression will acquire transferrable skills relevant to their own domain.

### II: Learning Outcomes

The following content is extracted directly from the CCAC master course syllabus for ATE-252:

1. Upon successful completion of the course, the student will:
2. Load a python library suitable for processing files of a given type.
3. Integrate an operating system process into a given program, making use of core python OS-related objects.
4. Create instances of the core Python graphical user interface (GUI) components: buttons, text boxes,

select boxes and images.

5. Convey meaningful information extracted from a simple data set.
6. Implement a user-centered design process for a Python program.
7. Model the core phases of smart design with a simple, non-technical design problem.
8. Convert a given algorithm written in English to Python.
9. Design a new algorithm to solve a technical problem.
10. Simulate a given human or system interaction in Python.
11. Curate an online portfolio of working documented Python code from at least two course projects using a version control system, like GIT.
12. Effectively discuss Python skills and their applications to a potential employer during a practice interview.

### III: The nitty gritty

textbook & materials	Master course website with session-specific content, submission portals, and assignment details:  <a href="https://technologyrediscovery.net/#python2">https://technologyrediscovery.net/#python2</a>
letter Grades	Drawing on completed work and contributions to our class learning environment, <b>propose a fair letter grade and a justification at midterm and final times using a 3x5 card.</b>  <a href="https://technologyrediscovery.net/coursesGen/trgrading.html">https://technologyrediscovery.net/coursesGen/trgrading.html</a>  <b>Attend the final session!</b> Attendance at final session and sharing of <i>fully-baked</i> final project is required to sufficiently justify a grade proposal of A or B except for pre-approved absences and "urgent, incidental, overriding life events"
due date	Work submission and grade proposals will be accepted until <b>Wednesday, 13 May 2020 @ morning light</b> but no later.
attendance & tardiness	As a primarily in-class driven course, <b>please try to attend 75-85% of sessions.</b> We recognize that students face varied constraints which can differently impact feasibility of class attendance. <i>Tardiness shall not be considered a factor in attendance.</i>
tests:	<b>No high-stakes tests!</b> Low-stakes, mini assessments written on single note cards will help track learning.
technology	All needed tech will be supplied as part of the course.
Academic Honesty	<b>Provide written credit to all relevant authors</b> of all code, writing, and project work for this course, including yourself and folks who help you (but who may not

	<p>be published authors). Include direct URLs of websites consulted.</p> <p><b>Honor the copyrights</b> associated with all content used in this course.</p> <p><b>Consequences:</b> Students suspected of academic dishonesty will be asked to produce documentation to support any attributions (or, more commonly, non-attributions).</p>
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	<p>Disabilities (OSSSD) or by visiting the OSSSD information page</p> <p><a href="https://www.ccac.edu/supportive-services/suppotive.php">https://www.ccac.edu/supportive-services/suppotive.php</a></p>
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## IV: Official CCAC notices

my. ccac. edu	<p>Students are reminded that they can access their course information and CCAC email account, the CCAC Academic Calendar (including add/drop/withdrawal deadlines), the Student Handbook, the College's Incident Report form, and many other College services through the MyCCAC portal: <a href="https://my.ccac.edu">https://my.ccac.edu</a></p>
student handbook	<p>All students are expected to read and comply with the policies and regulations set forth in the CCAC Student Handbook, including without limitation the College's policies regarding academic and behavioral conduct, the procedures for requesting an accommodation based upon a disability, pregnancy or pregnancy related condition, or a religious observance, and for reporting unlawful discrimination and harassment.</p> <p>The Student Handbook is available to view and download along with the full text of the College's <i>Policy Manual</i>, <i>Administrative Regulations Manual</i>, and the Civil Rights Complaint Procedure:</p> <p><a href="https://www.ccac.edu/academic-rules-and-regulations/rules-and-regulations.php">https://www.ccac.edu/academic-rules-and-regulations/rules-and-regulations.php</a></p> <p><a href="https://www.ccac.edu/president/policies-and-regulations.php">https://www.ccac.edu/president/policies-and-regulations.php</a></p>
diversity	<p>Title IX of the Education Amendments 1972 (20 U.S.C. 1681 et seq.) and its implementing regulations, 34 C.F.R. Part 106, prohibit discrimination on the basis of sex in education programs or activities operated by recipients of Federal financial assistance. It is the landmark legislation that bans gender based discrimination in schools and colleges.</p> <p><i>"No person in the U.S. shall, on the basis of sex be excluded from participation in, or denied the benefits of, or be subjected to discrimination under any educational program or activity receiving federal aid."</i></p> <p><a href="https://www.ccac.edu/diversity/title-IX.php">https://www.ccac.edu/diversity/title-IX.php</a></p> <p><a href="https://www.ccac.edu/diversity/notices.php">https://www.ccac.edu/diversity/notices.php</a></p>
disability	<p>Information concerning the process and documentation required to request a disability-related accommodation can be obtained by contacting the campus' Office of Supportive Services for Students with</p>

## V: Content licensing and sharing

licensing	<p>All non-computer code content on technologyrediscovery.net (course content, images, media) is licensed under the Creative Commons Share-Alike license (CC BY-SA 4.0); no attribution required.</p> <p><a href="https://creativecommons.org/licenses/by-sa/4.0/">https://creativecommons.org/licenses/by-sa/4.0/</a></p> <p>Computer code is licensed by file; most course code is copylefted under the GNU Public License</p>	
contribute	<p>You are invited to anonymously contribute your work products in this course to the freely reusable <i>creative commons</i> educational material ecosystem made possible by copy left licenses. Any work contributed to this course will fall under this site-wide license scheme.</p>	
sharing elections	<p>Please review the sharing preference options and CHOOSE ONE by initialing and dating the bottom of the box. You may change these at any time by talking with your instructor.</p>	
A. Full participation:	B. Partial participation:	C. Non-participation:
<p>You may anonymously store and reproduce my coursework in the <i>creative commons</i> (except for individual work pieces marked with a big X or "do not share" DNS)</p> <p>init: _____ date: _____</p>	<p>I'm open to sharing but would like to release work individually upon instructor request (default no share). I will submit any work <i>I do not want shared as a</i> hard copy to my student folder.</p> <p>init: _____ date: _____</p>	<p>I do not authorize the sharing of any of my coursework and will submit all my work hard copy to my student folder (never online).</p> <p>init: _____ date: _____</p>