

# Community College *of* Philadelphia

**AGENDA**  
**Institution-Wide Committee**  
**Monday,**  
**February 28, 2022**  
**2:30 pm**

**ZOOM meeting**

- I. Call to Order**
- II. Attendance**
- III. Approval of Minutes**
  - a. Minutes of January 31, 2022**
- IV. Old Business**
- V. New Business**
  - a. Photography AAS revision (was Photographic Imaging)**
  - b. Toyota T-TEN AAS new**
  - c. Web and Mobile Application Development AAS (new)**
- VI. Information**
- VII. Adjournment**

**Institution Wide Committee**  
**Monday January 31, 2022**  
**2:30pm**

## **Zoom Meeting**

### **I. Call to Order**

The meeting was called to order at 2:34 p.m. by Sam Hirsch.

### **II. Attendance**

Federation Voting Delegates: Sean Sauer (Co-chair) took minutes for the meeting, Stan Walling, Jacquelyn Bryant

Federation Voting Alternates: Cynthia Paul

Administration Voting Delegate: Sam Hirsch (Co-chair)

Administration Voting Alternates: Lisa Hutcherson, Leila Lawrence, Vijay Sonty

Administration Alternate: Vishal Shah

Student Voting Delegates: Ahmad Mitchell, Justice Passe

Guests: Francesca DiRosa, Chae Sweet, Pascal Scoles, Pam Carter, Lynsey Madison, Richard Saxton, Amy Birge-Caracappa

### **III. Approval of minutes**

- a. Minutes from the Monday, October 25, 2021 meeting were presented. Jacquelyn asked that a correction of the spelling of her name be made. Sam Hirsch made a note that would be corrected. Stan Walling moved to approve meeting minutes. The meeting minutes were approved with the correction.

**IV. Old Business** -No items were discussed.

### **V. New Business**

#### **a. Behavioral Health and Human Services AAS (revision)**

Chae Sweet introduced Pascal Scoles who provided an overview of the changes.

Following the introduction, Dr. Cynthia Paul commented she did not receive the documents for the meeting. Stan Walling commented that the documents were included in the calendar invite to the meeting. Dr. Hirsch said that he would make sure that all documents would be distributed via email moving forward.

Pascal Scoles informed the committee that the revision of the BHHS curriculum was the result of both the Academic Program Audit as well as an environmental scan that was conducted to

ascertain the needs of various local behavioral health and human services organizations. The recommendations were reviewed by faculty and informed the curriculum revisions that were eventually made to address the information gathered. The outcome of the environmental scan revealed a need for more focus on trauma, family and Intimate partner abuse, social determinants of health, substance abuse, youth development, and elder care. The program curriculum has been designed to meet these areas of need and focus core coursework accordingly. The program will also have a capstone practicum as opposed to two practicums.

Pascal Scoles introduced Francesca DiRosa who presented the major changes in program revisions. Francesca DiRosa further explained that courses were added to reflect the audit assessment and existing courses were updated. Stan Walling asked if they had coordinated with the Public Health program at CCP. Francesca DiRosa said that she had a conversation early on with the Allied Health Department Chair and would pursue the possibility of including cross-listing the newly developed course, Introduction to the Social Determinants of Mental Health (BHHS 102). Pascal Scoles further clarified that BHHS is not designed as a transfer program, but rather as a Workforce, Applied Associate's Degree curriculum. Behavioral Health and Human Services curricula and coursework do not seamlessly transfer into Social work programs. However, students can transfer into a Social Work program after graduating with the BHHS Degree, and additionally have the benefit of being able to find employment in the field of Human Services. Students complete 156 hours each semester with two different practicum experiences. The program provides two separate kinds of experiences making sure they are getting experience in the field and area of interest they are pursuing. Many students are already working in a related field and are taking classes for the relevant certification, by enrolling in one of the BHHS Proficiency Certificates.

The program allows students to transfer in up to six credits of related coursework taken in Peer Specialist Training programs and also credit course work assigned for prior work experience. Vijay Sonty asked about persistence referencing the provided lower enrollment numbers. Francesca DiRosa explained that they looked at student persistence in developing the program revision and have hopefully begun to address student retention, by revising the design and core coursework in the curriculum. There will also be more engagement with Workforce Development.

Justice Passe asked if they have noticed if students are having a hard time applying for jobs outside of the college. Career connections was of assistance in delivering content to students regarding applying for jobs. Commenting further that we should have more job fairs. Francesca DiRosa explained that the department is working on strengthening the connection with industry.

The Committee unanimously agreed to recommend the revised program for approval to the President.

\*Sam Hirsch asked that it be included in the notes that all program revisions were approved by the curriculum committee.

## **VI. Information**

Victoria Zellers introduced an information item regarding changes to Policy 8 and 8A, Title IV program. She provided an overview of the recent changes made based on requirements put forth by the Department of Education. She then explained that Policy 8 requires additional clarification on Withdrawals after the 20% attendance point in the semester. Revision as of January 2022 will be that students who withdraw from a course before 20% attendance will receive a “WD” and students who withdraw after 20% attendance will receive a “W”. Students who have never attended will not receive a “WD”. This information will be updated on the college website.

### **Back to V. New Business**

#### **b. Culinary Arts AAS (revision)**

Pam Carter introduced Lynsey Madison the faculty developer who oversaw this revision. Lynsey explained that this revision stemmed from program assessment, a decline in enrollment, and following current trends in culinary. One of the major goals is to create new career paths. In the past, Culinary Arts AAS had been accredited by the American Culinary Federation but moving forward they have not renewed this accreditation to allow for more flexibility in developing curriculum. A new internal work experience course has been added. Students will be able to see themselves as a part of the workforce through a real-world environment created in classroom. This will simulate industry in controlled environment. Students will now learn more about current dietary constraints such as gluten free, kosher, and vegetarian. They will also learn about best practices such as food sustainability, recycling, and eliminating waste which is also cost effective in today’s culinary environment. A marketing element has been added addressing running your own business. With this revision 3 courses have been removed from the program. Reducing the total number of credits from 65 to 64. Vijay Stonty asked if there will be an added equipment cost. Any additional cost would be nominal.

The Committee unanimously agreed to recommend the revised program for approval to the President.

#### **c. Medium and Heavy Truck Technology (new)**

Richard Saxton presented the new Medium and Heavy Truck Technology Program. This new program will take place at the new Career and Advanced Technology Center. This new space, being built in West Philadelphia, is in the process of being completed and is scheduled to open for fall 2022.

The Medium and Heavy Truck Technology Program was created by the Automotive Technology Department in response to industry needs put forth by the City of Philadelphia and SEPTA. This program is expected to draw students from across the region as there is currently no similar program offered in the city or neighboring community colleges. This will be the only truck

technology program available in the area for students interested in this kind of work. The shop is designed to accommodate eighteen-wheeler, medium sized buses, or front-end loaders. The technology is constantly being updated to follow industry standards. They considered partnering with a company in the industry but have decided to stay general so to best prepare students to be flexible.

Stan Walling asked if they are planning on developing any programming catering to rail technology. Richard Saxton explained that SEPTA requests CCP develop this type of program occasionally. Penn State Altoona has a full rail and engine building program, but otherwise this type of training is received on the job.

The Committee unanimously agreed to recommend the new program for approval to the President.

Sam Hirsch reviewed the committee's expedited process. He explained to those new to the committee the purpose of the expedited process. There are times, due primarily to catalog deadline dates, that new or revised academic programs or policies need to be forwarded to the President prior to waiting for a subsequent meeting to approve the minutes. Thus, the documents go forward without the need for the committee to approve meeting minutes.

Stan Walling suggested that future committee meetings be recorded to assist in keeping minutes and everyone agreed.

The next scheduled IWC meeting will be held on February 28 at 2:30 via Zoom.

## COMMUNITY COLLEGE OF PHILADELPHIA

### Degree Program Revision Template

Name of Degree Program	Photography (was Photographic Imaging)
Academic Pathway	Creative Arts
Department	Photography (was Photographic Imaging)
Faculty Developer	Kara Crombie
Facilitator	Cindy Giddle
Recommended Starting Semester	Fall 2022
Today's Date	February 10, 2022

#### I. Description of and Rationale for Revision

The proposed revision includes a change to the name of the program, the addition of three new required courses, revisions to three existing courses, and three course eliminations. This revision also incorporates changes to the course sequence and curriculum map, including the addition of Photography electives in the course sequence. The minimum number of credits is changing from 60 to 61.

**Name Change:** The name of the program is changing from Photographic Imaging to Photography. The name “Photographic Imaging” implies something more specific than what the curriculum entails, which is a complete overview of photography from camera operation to image manipulation and presentation. The title “Photography” is more timeless and straightforward and incorporates all aspects of the medium. Potential students are more likely to search for careers in “Photography”, not “Photographic Imaging”.

**New Courses:** There are three new courses in this program revision, PHOT 251, PHOT 297, and PHOT 298, all of which will be required in the program. PHOT 251 is an advanced Photoshop class. Photoshop is a sophisticated and essential software, and advanced techniques cannot be presented in one semester. Such a class has often been requested, and as the introductory Photoshop class now runs three sections a semester, it is likely that an advanced Photoshop course would be popular with majors and non-majors. PHOT 297 requires students to propose and create a photography-based community project, such as a photography workshop for kids, an exhibition, or a photo-based event, allowing students to get professional experience in their areas of interest in a way that is more practical and consistent than an internship, which is dependent on an

external professional rather than a College instructor. Experience such as event organizing, curating, instructing, and community outreach are valuable skills for student to put on resumes. PHOT 297 also addresses the college mission statement of community engagement. The photography portfolio preparation course, PHOT 298, is important for students to develop a consistent and focused portfolio for employment. At the moment, PHOT 299: Professional Practices in Photographic Imaging and Digital Video Production does not allow enough time for students to develop a personalized portfolio based on their employment goals, and consequently, most student portfolios are a collection of disparate assignments from a variety of courses. The most valuable tool for employment in the field of photography is the portfolio, and it is essential that a professional portfolio demonstrate originality, a personal aesthetic, and a cohesive, fully realized project. In PHOT 298, students will cultivate and present an original project that can be catered to their specific employment goals.

## **PHOT 251 - Advanced Techniques in Photo Editing (Photoshop II)**

2-2-2

**Credit Hours: 2**

This course is designed to help students prepare for a professional career in photography. The emphasis of the class is on photography post-production. Working across multiple software platforms, students will learn archival strategies, techniques for speeding up and improving workflow, and advanced tools and techniques in post-production image editing. Lectures and discussions will focus on various aspects of this crucial aspect of photographic image making, while lab time will reinforce these ideas with hands-on learning. **Prerequisite:** PHOT 151

### **PHOT 251 Course Learning Outcomes:**

Upon successful completion of the course, students will be able to:

1. Edit images proficiently through digital platforms currently used in professional photo production and photo editing jobs.
2. Build and maintain archival structures for organizing a large volume of work.
3. Use advanced non-destructive image editing techniques across multiple software applications in photo editing
4. Create personalized automatic functions to increase efficiency and speed in image editing workflows.
5. Apply retouching techniques with an understanding of the moral and ethical questions surrounding the body and ideas of beauty.

## **PHOT 297 - Community Photography Projects**

2-4-4

Credit Hours: 4

Students in this course will collectively develop a photography project that addresses the issues of a specific community and gain relevant professional experience in the field of photography. Through the production and documentation of this group project, students will individually develop professional photographic practices that can be applied to resumes.

**Prerequisites:** PHOT 101 or PHOT 105, PHOT 104

### **PHOT 297 Course Learning Outcomes:**

Upon successful completion of the course, students will be able to:

1. Propose a contemporary public photography project within the context of historical public art projects and their functions.
2. Identify social needs in the local community that can be addressed with a public photography project.
3. Plan, develop, and present a public photography-based project or event that serves the social needs of the local community.
4. Create a professional video documentary of the community photography project.

## **PHOT 298 - Photography Portfolio**

2-4-4

Credit Hours: 4

This course is a professional photography portfolio preparation class. Students will be supplied with the resources and mentorship necessary to produce a cohesive photographic portfolio that demonstrates originality and technical proficiency in their chosen field of photography. Lab fee \$75.

**Prerequisites:** PHOT 104

### **PHOT 298 Course Learning Outcomes:**

Upon successful completion of the course, students will be able to:

1. Apply contemporary practices and aesthetic trends in commercial and fine art contemporary photography.
2. Conceptualize, plan, and produce a cohesive long-term photography project.
3. Produce a cohesive professional photographic portfolio that demonstrates originality in content and style and is consistent with current business practices.
4. Defend their portfolios in written and verbal arguments.

**Course Revisions:** PHOT 201 has been revised to combine two current courses: PHOT 201: Commercial Photography - Studio and PHOT 202: Commercial Photography - Portrait. The revision includes increased focus on the use of studio lighting as well as



changes to the course title, prerequisites, course description, and course learning outcomes. The titles of both PHOT 151 and PHOT 299 are being revised. In addition, PHOT 299 includes changes to the title, prerequisites, and course description.

**Course Eliminations:** PHOT 211: Corporate and Event Photography, currently required course, is being eliminated from the program because it is highly specific, unpopular, and any important content has been addressed with the electives. The course also has not run for years and has served as roadblock for students trying to graduate. PHOT 211 is replaced by a Photography elective. PHOT 103: Architectural and Landscape Photography is being eliminated as a requirement because it is highly specific and involves darkroom techniques that have become optional in the curriculum; however it will be available to students as a Photography elective. In addition, the option of HIST 103: United States History: The 20<sup>th</sup> Century or GEOG 103: Human Geography in the fourth semester is also being eliminated and replaced with a Photography elective.

**Changes to Course Sequence:** The proposed course sequence is designed to improve student retention and graduation. The current course sequence is highly dependent on prerequisites, and upper-level courses are offered infrequently so that students become stagnant in the curriculum, which affects retention, and are unable to complete the program in two years, which affects graduation. The new curriculum offers students more flexibility in upper-level courses by offering an array of electives that can be taken concurrently. Rather than requiring students to take highly specialized and unpopular courses, students will choose three upper-level electives from an array of existing elective offerings, allowing them to customize their education to fit their specific area of interest in photography, and the department can run classes based on popularity to ensure enrollment. Elective courses currently in development for Fall 2023 include Drone, Wedding, and Fine Art photography.

The proposed curriculum format of upper-level electives also allows the department to develop and offer new courses as technology and the industry change, without changing the course sequence. Photography is a field based on technology, so industry practices change frequently. Photography is a wide and diverse field, ranging from fine art to scientific applications; however, the current curriculum is too focused on commercial applications of photography that are, in many cases, outdated. The proposed curriculum allows students to cater their education to their specific interests in the field. Likewise, the department can offer courses based on student interest and popularity.

In addition, PHOT 151 moves from the second semester to the first semester, trading places with PHOT 111/PHOT 113, and PHOT 201 moves to the second semester from the third semester.

**Change in Credits:** To accommodate the changes described above, the number of credits is changing from 60 to 61.

## II. Supporting Data

Please see the **Appendix** for Photographic Imaging enrollment and graduation data.

## III. Program Learning Outcomes

There is a slight change to the fourth program learning outcome to reflect the program name change from Photographic Imaging to Photography.

## IV. Effect on Other Programs

This revision should not affect other degree and certificate programs at the College.

## V. Space or Technology Requirements

This revision does not involve new space or technology requirements.

## VI. Current/Proposed Catalog Page and Course Sequence

### Photographic Imaging (current)

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**Description:** The Photographic Imaging curriculum provides special emphasis in several professional areas. Classroom lecture and laboratory assignments lead to the development of technical and aesthetic skills and knowledge preparing students to qualify for jobs in photographic imaging and related occupations. Students completing the Photographic Imaging program will be prepared to work as photographers, studio assistants and imaging lab technicians. Extensive darkroom, studio and imaging lab work is required, using both silver-based and digital technologies in both black and white and color.

Location or studio assignments are required in all courses. Professional practices and production are emphasized, and students are encouraged to develop artistic appreciation and imagination in their work. Upper-level courses emphasize working with advanced techniques and portfolio preparation.

**Policy Regarding Student Work:** The Department reserves the right to retain all student work submitted for grading for educational use or exhibition, or to select an example or samples for its permanent collection.

**Costs:** Students are required to supply all film, paper, digital storage media, textbooks, presentation material and other supplies. Film cameras, digital cameras, and video production equipment may be provided by the department when available. Students in 200-level courses will be advised regarding the purchase of professional equipment. Approximate supply costs appear after each course description.

## Program Learning Outcomes:

Upon completion of this program graduates will be able to:

- Create photographs, videos and/or digital slide shows to satisfy commercial clients' specifications.
- Demonstrate proficiency with camera operation, lighting, digital image processing, portfolio presentation, audio and video production.
- Evaluate their photographs in the context of historical and contemporary trends.
- Employ current business practices as applied to photographic imaging.

**Program Entry Requirements:** This program is open to interested students, assuming space is available. However, new students are normally required to take the College's placement tests at their time of entry. Students who are identified as needing developmental course work must satisfactorily complete the appropriate English and mathematics courses as a part of their degree program.

**Program of Study and Graduation Requirements:** To qualify for the Associate in Applies Science (A.A.S.) degree in Photographic Imaging, a student must complete at least 63 credit hours and attain a grade point average of 2.0 ("C" average).

## Course Sequence:

Semester 1

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<a href="#">PHOT 101 - Introduction to 35mm Film Camera and Darkroom Techniques</a> or <a href="#">PHOT 105 - Introduction to Digital Photography</a>		4 credits	Oral Communication/ Creative Expression
<a href="#">PHOT 104 - Introduction to Video Production</a>		3 credits	
<a href="#">PHOT 111 - History of Photography</a> or <a href="#">PHOT 113 - Digital Technology, Art, and Culture</a>		3 credits	Cultural Analysis & Interpretation
<a href="#">ENGL 101 - English Composition I</a>		3 credits	Writing/Research /Info Lit 1
<a href="#">CIS 103 - Computer Applications &amp; Concepts</a>		3 credits	Technological Competency

## Semester 2

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<a href="#">PHOT 103 - Architectural and Landscape Photography</a>	<a href="#">PHOT 101</a> or <a href="#">PHOT 105</a> with a grade of "C" or better or permission of the department head	4 credits	
<a href="#">PHOT 151 - Digital Imaging</a>		3 credits	
<a href="#">PHOT 152 - Introduction to Color Photography and Digital Printing</a>	<a href="#">PHOT 151</a> , which may be taken concurrently	3 credits	
<a href="#">ENGL 102 - The Research Paper</a>	<a href="#">ENGL 101</a> with a grade of "C" or better	3 credits	Writing/Research /Info Lit 2
<a href="#">MATH 137 - Geometry for Design</a>	FNMT 017 or FNMT 019 completed or FNMT 118 (or higher) placement	3 credits	Quantitative Reasoning

## Semester 3

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<a href="#">PHOT 201 - Commercial Photography - Studio</a>	<a href="#">PHOT 103</a>	4 credits	
<a href="#">PHOT 202 - Commercial Photography - Portraiture</a>	<a href="#">PHOT 152</a> , which may be taken concurrently	4 credits	
<a href="#">PHOT 217 - Photojournalism</a>	<a href="#">PHOT 104</a> , <a href="#">PHOT 151</a> ; <a href="#">PHOT 152</a> , which may be taken concurrently	4 credits	
<a href="#">EASC 111 - Environmental Conservation</a> or		3 or 4 credits	Scientific Reasoning

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<a href="#">STS 101 - Introduction to Science, Technology and Society</a>			

Semester 4

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<a href="#">PHOT 205 - Commercial Photography - Advanced Studio</a> or <a href="#">PHOT 250 - Fashion and Entertainment Photography</a>	For PHOT 205: <a href="#">PHOT 152</a> and <a href="#">PHOT 201</a> For PHOT 250: <a href="#">PHOT 101</a> or <a href="#">PHOT 105</a> and <a href="#">PHOT 201</a>	4 credits	
<a href="#">PHOT 211 - Event and Corporate Videography</a>	<a href="#">PHOT 104</a>	3 credits	
<a href="#">PHOT 299 - Professional Practices in Photographic Imaging and Digital Video Production</a>	<a href="#">DVP 120</a> , <a href="#">DVP 130</a> , <a href="#">DVP 140</a> , <a href="#">DVP 150</a> must be taken prior to this course, <a href="#">DVP 210</a> and <a href="#">DVP 240</a> may be taken concurrently with this course or <a href="#">PHOT 202</a> must be taken prior to this course and <a href="#">PHOT 205</a> or PHOT 250 may be taken concurrently.	3 credits	
<a href="#">HIST 103 - United States History: The 20th Century</a> or <a href="#">GEOG 103 - Introduction to Human Geography</a>		3 credits	

**Minimum Credits Needed to Graduate: 60**

**General Education Requirements:** All general education requirements necessary for graduation are met through the courses in the program as indicated above. Students who wish to

take courses that differ from the general education courses indicated above must complete a course substitution request form. To access the form, login to the MyCCP portal, and in the Student tab, under Electronic Forms, click on the Records and Registration Forms link, then choose Request For Course Substitution Of Graduation Requirement link. A more detailed explanation of the College's general education requirements is also available.

**For More Information, Contact:** The Division of Liberal Studies, Room BR-21, 1700 Spring Garden Street, Philadelphia, PA 19130, Telephone (215) 751-8450; or the College Information Center (215) 751-8010.

# Photography (proposed)

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## Description:

**Learning to Photograph the Living World:** Capture the world through a camera. As a Photography student, you will learn how to use sophisticated cameras, to work with editing technology, and to deploy lighting techniques. You will also learn to work with professional software, including Adobe Photoshop; cultivate creative expression through photography; and develop a portfolio. As a student in the College's Photography program, you will receive training on the same equipment and software used by industry professionals, get an introduction to developing a photography business, and gain experience working on a video crew.

The Photography curriculum provides special emphasis in several professional areas. Classroom lecture and laboratory assignments lead to the development of technical and aesthetic skills and knowledge preparing students to qualify for jobs in photography and related occupations. Students completing the Photography program will be prepared to work as photographers, studio assistants and imaging lab technicians.

Professional practices and production are emphasized, and students are encouraged to develop creativity and a personal aesthetic. Upper-level courses emphasize working with advanced techniques and portfolio preparation and allow students to focus on their specific fields of interest within the medium.

**Policy Regarding Student Work:** The Department reserves the right to retain all student work submitted for grading for educational use or exhibition, or to select an example or samples for its permanent collection.

**Costs:** Students are required to supply all digital storage media while the department will provide cameras and video production equipment when available. The department also provides access to computers and professional photo editing software. Students in 200-level courses will be advised regarding the purchase of professional equipment. Approximate supply costs appear after each course description.

## Program Learning Outcomes:

Upon completion of this program graduates will be able to:

- Create photographs, videos and/or digital slide shows to satisfy commercial clients' specifications.
- Demonstrate proficiency with camera operation, lighting, digital image processing, portfolio presentation, audio and video production.
- Evaluate their photographs in the context of historical and contemporary trends.
- Employ current business practices as applied to **photography**.

**Program Entry Requirements:** This program is open to interested students, assuming space is available. However, new students are normally required to take the College's

placement tests at their time of entry. Students who are identified as needing developmental course work must satisfactorily complete the appropriate English and mathematics courses as a part of their degree program.

**Program of Study and Graduation Requirements:** To qualify for the Associate in Applies Science (A.A.S.) degree in **Photography**, a student must complete **at least 61 credits and** attain a grade point average of 2.0 ("C" average).

**Course Sequence:**

Semester 1

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<a href="#"><u>PHOT 101 - Introduction to 35mm Film Camera and Darkroom Techniques</u></a> or <a href="#"><u>PHOT 105 - Introduction to Digital Photography</u></a>		4 credits	Oral Communication/ Creative Expression
<a href="#"><u>PHOT 104 - Introduction to Video Production</u></a>		3 credits	
<b><a href="#"><u>PHOT 151 - Techniques in Photo Editing (Photoshop I)</u></a></b>		<b>3 credits</b>	
<a href="#"><u>ENGL 101 - English Composition I</u></a>		3 credits	Writing/Research /Info Lit 1
<a href="#"><u>CIS 103 - Computer Applications &amp; Concepts</u></a>		3 credits	Technological Competency

Semester 2

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<b><a href="#"><u>PHOT 201 - Basic Lighting for Photography</u></a></b>	<b>PHOT 101 or PHOT 105 PHOT 151, which may be taken concurrently. PHOT 152, which may be taken concurrently</b>	4 credits	



Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<a href="#">PHOT 111 - History of Photography</a> or <a href="#">PHOT 113 - Digital Technology, Art, and Culture</a>		3 credits	Cultural Analysis & Interpretation
<a href="#">PHOT 152 - Introduction to Color Photography and Digital Printing</a>	<a href="#">PHOT 151</a> , which may be taken concurrently	3 credits	
<a href="#">ENGL 102 - The Research Paper</a>	<a href="#">ENGL 101</a> with a grade of "C" or better	3 credits	Writing/Research /Info Lit 2
<a href="#">MATH 137 - Geometry for Design</a>	FNMT 017 or FNMT 019 completed or FNMT 118 (or higher) placement	3 credits	Quantitative Reasoning

### Semester 3

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<a href="#">PHOT 297 - Community Photography Projects</a>	<a href="#">PHOT 101</a> or <a href="#">PHOT 105</a> and <a href="#">PHOT 104</a>	4 credits	
<a href="#">PHOT 251 - Advanced Techniques in Photo Editing (Photoshop II)</a>	<a href="#">PHOT 151</a>	3 credits	
<b>Photography Elective (choose one):</b> <a href="#">PHOT 103 - Architectural and Landscape Photography</a> or <a href="#">PHOT 202 - Commercial Photography Portraiture</a> or <a href="#">PHOT 217 - Photojournalism</a> or <a href="#">PHOT 250 - Fashion and Entertainment Photography</a> or <a href="#">PHOT 205 - Commercial Photography Advanced Studio</a>	<a href="#">PHOT 103: PHOT 101 or PHOT 105</a> with a grade of "C" or better or permission of department head  <a href="#">PHOT 202: PHOT 152</a> , which may be taken concurrently  <a href="#">PHOT 217: PHOT 104, PHOT 151,</a>	4 credits	

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
	<p>PHOT 152, which may be taken concurrently</p> <p>PHOT 250: PHOT 101 or PHOT 105 and PHOT 201</p> <p>PHOT 205: PHOT 152 and PHOT 201</p>		
<a href="#">EASC 111 - Environmental Conservation</a> or <a href="#">STS 101 - Introduction to Science, Technology and Society</a>		3 or 4 credits	Scientific Reasoning

Semester 4

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<p><b>Photography Elective (choose two):</b>            PHOT 103 - Architectural and Landscape Photography or            PHOT 202 - Commercial Photography Portraiture or            PHOT 217 - Photojournalism or            PHOT 250 - Fashion and Entertainment Photography or            PHOT 205 - Commercial Photography Advanced Studio</p>	<p>PHOT 103: PHOT 101 or PHOT 105 with a grade of "C" or better or permission of department head</p> <p>PHOT 202: PHOT 152, which may be taken concurrently</p> <p>PHOT 217: PHOT 104, PHOT 151, PHOT 152, which may be taken concurrently</p> <p>PHOT 250: PHOT 101 or PHOT 105 and PHOT 201</p>	8 credits	

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
	PHOT 205: PHOT 152 and PHOT 201		
PHOT 298: Photography Portfolio	PHOT 104 and PHOT 201	4 credits	
<a href="#">PHOT 299 - Professional Practices in Photography and Digital Video Production</a>	PHOT 201 (Photography students) or <a href="#">DVP 120</a> , <a href="#">DVP 130</a> , <a href="#">DVP 140</a> , <a href="#">DVP 150</a> must be taken prior to this course. <a href="#">DVP 210</a> and <a href="#">DVP 240</a> may be taken concurrently with this course (DVP students)	3 credits	

**General Education Requirements:** All general education requirements necessary for graduation are met through the courses in the program as indicated above. Students who wish to take courses that differ from the general education courses indicated above must complete a course substitution request form. To access the form, login to the MyCCP portal, and in the Student tab, under Electronic Forms, click on the Records and Registration Forms link, then choose Request For Course Substitution Of Graduation Requirement link. A more detailed explanation of the College's general education requirements is also available.

**For More Information, Contact:** The Division of Liberal Studies, Room BR-21, 1700 Spring Garden Street, Philadelphia, PA 19130, Telephone (215) 751-8450; or the College Information Center (215) 751-8010.

## VII. Current/Proposed [Courses and Completion Sequence](#)

### Current Courses and Completion Sequence

The following courses and sequence of courses is designed for the optimal success and completion of the [Photographic Imaging](#) degree/certificate. Any alterations should be discussed with your academic advisor.

#### Semester 1

Course Number and Name	Credits	Advisory Notes
<a href="#">PHOT 101 - Introduction to 35mm Film Camera and Darkroom Techniques</a> or <a href="#">PHOT 105 - Introduction to Digital Photography</a>	4 credits	Fulfills Oral Communication/Creative Expression requirement Prerequisites for <a href="#">PHOT 103</a>
<a href="#">PHOT 104 - Introduction to Video Production</a>	3 credits	Prerequisite for <a href="#">PHOT 217</a> and <a href="#">PHOT 211</a>
<a href="#">PHOT 111 - History of Photography</a> or <a href="#">PHOT 113 - Digital Technology, Art, and Culture</a>	3 credit	Fulfills Cultural Analysis & Interpretation requirement
_____		_____
<a href="#">CIS 103 - Computer Applications &amp; Concepts</a>	3 credit	Fulfills Technological Competency requirement

program.

#### Semester 2

Course Number and Name	Credits	Advisory Notes
<a href="#">PHOT 103 - Architectural and Landscape Photography</a>	4 credits	Prerequisites: <a href="#">PHOT 101</a> ; or <a href="#">PHOT 105</a> ; with a "C" or better or permission of the department head Prerequisite for <a href="#">PHOT 201</a> . Students will search for business relationships, opportunities and internships.

Course Number and Name	Credits	Advisory Notes
<a href="#">PHOT 151 - Digital Imaging</a>	3 credits	Prerequisite for <a href="#">PHOT 217</a>
<a href="#">PHOT 152 - Introduction to Color Photography and Digital Printing</a>	3 credits	Prerequisite: <a href="#">PHOT 151</a> , which may be taken concurrently Prerequisite for <a href="#">PHOT 217</a> ; and; <a href="#">PHOT 201</a>
<a href="#">ENGL 102 - The Research Paper</a>	3 credits	Fulfills Writing, Research, Info Lit 2 requirement <a href="#">ENGL 101</a> ; with a grade of "C" or better
<a href="#">MATH 137 - Geometry for Design</a>	3 credits	Fulfills Quantitative Reasoning requirement <a href="#">FNMT 118</a> ; or higher placement

### Semester 3

Course Number and Name	Credits	Advisory Notes
<a href="#">PHOT 201 - Commercial Photography Basic Studio</a>	4 credits	Prerequisite: <a href="#">PHOT 103</a> Prerequisite for <a href="#">PHOT 205</a>
<a href="#">PHOT 202 - Commercial Photography Portraiture</a>	4 credits	Prerequisite: <a href="#">PHOT 152</a> , which may be taken concurrently Prerequisite for <a href="#">PHOT 299</a>
<a href="#">EASC 111 - Environmental Conservation</a> or <a href="#">STS 101 - Introduction to Science, Technology and Society</a>	3 credits	Fulfills Scientific Reasoning requirement <a href="#">FNMT 118</a> or higher placement is a prerequisite for STS 101 Students may select an alternate course with Dept. Head approval
<a href="#">PHOT 217 - Digital Photojournalism</a>	4 credits	Prerequisites: <a href="#">PHOT 104</a> , <a href="#">PHOT 151</a> , <a href="#">PHOT 152</a> , which may be taken concurrently

## Semester 4

Course Number and Name	Credits	Advisory Notes
<a href="#">PHOT 205 - Commercial Photography Advanced Studio</a> or PHOT 250: Fashion Entertainment Photography	4 credits	PHOT 205 prerequisites: PHOT 152 and PHOT 201  PHOT 250 prerequisites: PHOT 101 or PHOT 105 and PHOT 201  PHOT 205 or PHOT 250 are both prerequisites for PHOT 299
<a href="#">PHOT 211 - Corporate and Event Videography</a>	3 credits	Prerequisites: <a href="#">PHOT 104</a>
<a href="#">PHOT 299 - Professional Practices in Photographic Imaging and Digital Video Production</a>	3 credits	For Digital Video Production program students: DVP 120, DVP 130, DVP 140, DVP 150 must be taken prior to PHOT 299, and DVP 210 and DVP 220 may be taken concurrently with PHOT 299.  For Photographic Imaging program students: PHOT 202 must be taken prior to PHOT 299, and PHOT 205 or PHOT 250 may be taken concurrently with PHOT 299.
<a href="#">HIST 103 - United States History: The 20th Century</a> or <a href="#">GEOG 103 - Introduction to Human Geography</a>	3 credits	

## Proposed Courses and Completion Sequence

The following courses and sequence of courses is designed for the optimal success and completion of the [Photography](#) degree/certificate. Any alterations should be discussed with your academic advisor.

### Semester 1

Course Number and Name	Credits	Advisory Notes	Course Type
<a href="#">PHOT 101 - Introduction to 35mm Film Camera and Darkroom Techniques</a> or <a href="#">PHOT 105 - Introduction to Digital Photography</a>	4 credits	Prerequisites for <a href="#">PHOT 201</a> and	Fulfills Oral Communication/Creative Expression requirement Major Course
<a href="#">PHOT 104 - Introduction to Video Production</a>	3 credits	Prerequisite for <a href="#">PHOT 217</a> , <a href="#">PHOT 297</a> , and <a href="#">PHOT 298</a>	Major Course
<a href="#">PHOT 151 - Techniques in Photo Editing (Photoshop I)</a>	3 credits	Prerequisite for <a href="#">PHOT 217</a>	Major Course
<a href="#">ENGL 101 - English Composition I</a>	3 credit	for <a href="#">ENGL 102</a> (with	
<a href="#">CIS 103 - Computer Applications &amp; Concepts</a>	3 credit		Fulfills Technological

A minimum GPA requirement of 2.0 ("C" average) is required to continue in program.

### Semester 2

Course Number and Name	Credits	Advisory Notes	Course Type
<a href="#">PHOT 201 - Basic Lighting for Photography</a>	4 credits	Prerequisites: <a href="#">PHOT 101</a> or <a href="#">PHOT 105</a> , <a href="#">PHOT 151</a> , which may be taken	Major Course

Course Number and Name	Credits	Advisory Notes	Course Type
		concurrently, and PHOT 152, which may be taken concurrently Prerequisite for <a href="#">PHOT 205</a> and PHOT 298	
<a href="#">PHOT 111 - History of Photography</a> or <a href="#">PHOT 113 - Digital Technology, Art, and Culture</a>	3 credit		Fulfills Cultural Analysis & Interpretation requirement Major Course
<a href="#">PHOT 152 - Introduction to Color Photography and Digital Printing</a>	3 credits	Prerequisite: <a href="#">PHOT 151</a> , which may be taken concurrently Prerequisite <a href="#">PHOT 201</a>	Major Course
<a href="#">ENGL 102 - The Research Paper</a>	3 credits	Prerequisite: <a href="#">ENGL 101</a> ; with a grade of "C" or better	Fulfills Writing, Research, Info Lit 2 requirement
<a href="#">MATH 137 - Geometry for Design</a>	3 credits	<a href="#">ENMT 118</a> ; or higher placement	Fulfills Quantitative Reasoning requirement

### Semester 3

Course Number and Name	Credits	Advisory Notes	Course Type
<a href="#">PHOT 297 - Community Photography Projects</a>	4 credits	Prerequisites: <a href="#">PHOT 101</a> or <a href="#">PHOT 105</a> and <a href="#">PHOT 104</a>	Major Course
<a href="#">PHOT 251 - Advanced Techniques in Photo Editing (Photoshop II)</a>	3 credits	Prerequisite: <a href="#">PHOT 151</a>	Major Course





Course Number and Name	Credits	Advisory Notes	Course Type
PHOT 202 - Commercial Photography Portraiture or PHOT 217 - Photojournalism or PHOT 250 -Fashion and Entertainment Photography or PHOT 205 - Commercial Photography Advanced Studio		permission of department head  PHOT 202: PHOT 152, which may be taken concurrently  PHOT 217: PHOT 104, PHOT 151, PHOT 152, which may be taken concurrently  PHOT 250: PHOT 101 or PHOT 105 and PHOT 201	
PHOT 298: Photography Portfolio	4 credits	Prerequisites: PHOT 104 and PHOT 201	Major Course
<a href="#">PHOT 299 -Professional Practices in Photography Imaging Production</a>	3 credits	For Photography   For Digital Video	Major Course

## VIII. Current/Proposed Curriculum Map

### Curriculum Map (current)

Required Courses	Photographic Imaging AAS Program Learning Outcomes			
	Create photographs, videos and/or digital slide shows to satisfy commercial clients' specifications.	Demonstrate proficiency with camera operation, lighting, digital image processing, portfolio presentation, audio and video production.	Evaluate their photographs in the context of historical and contemporary trends.	Employ current business practices as applied to photographic imaging.
PHOT 101: Intro to 35mm Film	I	I	I	
PHOT 105: Intro to Digital Photography	I, A	I, A	I, A	
PHOT 104: Intro to Video Production	I	I	I	
PHOT 111: History of Photography			I, A	
PHOT 113: Digital Technology, Art, and Culture			I, A	
PHOT 103: Architectural and Landscape Photography	I, R M	I, R M	R	I
PHOT 151: Digital Imaging	I	I	I	I
PHOT 152: Intro to Color Photography and Digital Printing	R	I, R	R	I
PHOT 201: Commercial Photography-Studio	I, R	I, R	I, R	I, R
PHOT 202: Commercial Photography-Portraiture	I, R, M, A	I, R, M, A	I, R, M, A	I, R, M, A
PHOT 217: Photojournalism	I, R, M	I, R, M	I, R, M	I, M
PHOT 205: Commercial Photography-Advanced Studio	I, R, M	I, R, M	I, R, M	R, M
PHOT 250: Fashion and Entertainment Photography	R, M	R, M	R, M	R, M
PHOT 211: Corporate and Event Videography	I, R, M	I, R, M	I, R, M	I, M
PHOT 299: Professional Practices in Photographic Imaging	R, M, A	I, R, M, A	I, R, M, A	I, R, M, A

## Curriculum Map (proposed)

	Photographic Imaging AAS Program Learning Outcomes			
	Create photographs, videos and/or digital slide shows to satisfy commercial clients' specifications.	Demonstrate proficiency with camera operation, lighting, digital image processing, portfolio presentation, audio and video production.	Evaluate their photographs in the context of historical and contemporary trends.	Employ current business practices as applied to photographic imaging.
<b>Required Courses</b>				
PHOT 101: Intro to 35mm Film	I	I	I	
PHOT 105: Intro to Digital Photography	I, A	I, A	I, A	
PHOT 104: Intro to Video Production	I	I	I	
PHOT 111: History of Photography			I, A	
PHOT 113: Digital Technology, Art, and Culture			I, A	
PHOT 151: Techniques in Photo Editing (Photoshop I)	I	I	I	I
PHOT 152: Intro to Color Photography and Digital Printing	R	I, R	R	I
PHOT 201: Basic Lighting for Photography	I, R	I, R	I, R	I, R
<b>Photography Electives</b>				
PHOT 103: Architectural and Landscape Photography	I, R M	I, R M	R	I
PHOT 202: Commercial Photography-Portraiture	I, R, M, A	I, R, M, A	I, R, M, A	I, R, M, A
PHOT 217: Photojournalism	I, R, M	I, R, M	I, R, M	I, M
PHOT 205: Commercial Photography-Advanced Studio	I, R, M	I, R, M	I, R, M	R, M
PHOT 250: Fashion and Entertainment Photography	R, M	R, M	R, M	R, M
PHOT 251: Advanced Techniques in Photo Editing (Photoshop II)	R, M	R, M	R, M	R, M

**Photographic Imaging AAS Program Learning Outcomes**

	<p>Create photographs, videos and/or digital slide shows to satisfy commercial clients' specifications.</p>	<p>Demonstrate proficiency with camera operation, lighting, digital image processing, portfolio presentation, audio and video production.</p>	<p>Evaluate their photographs in the context of historical and contemporary trends.</p>	<p>Employ current business practices as applied to photographic imaging.</p>
PHOT 297: Community Photography Projects	R, M	R, M	R, M	R, M
PHOT 298: Photography Portfolio	R, M, A	R, M, A	R, M, A	R, M, A
PHOT 299: Professional Practices in Photography	R, M, A	I, R, M, A	I, R, M, A	I, R, M, A

**IX. Appendix**

**Photographic Imaging Enrollment and Graduation Data**

**Enrollment**

	Fall 2018	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021
New Students	20	34	8	11	3	10
Returning Students	43	44	37	30	25	31
TOTAL	62	58	45	41	28	41

**Time to Degree**

2018		2020	
Graduates	Median Time to Degree (Years)	Graduates	Median Time to Degree (Years)
9	2.66	2	3.65

**Associate Degrees Awarded**

2010	2011	2012	2013	2014	2015	2016	2017	2018
6	5	4	3	4	3	6	7	9

**COMMUNITY COLLEGE OF PHILADELPHIA**

**New Degree Program Proposal**

Name of Degree Program	Toyota T-TEN (ATEN)
Academic Pathway	Design, Construction and Transportation
Department	Transportation Technologies
Faculty Developer(s)	Richard Saxton
Facilitator	Amy Birge-Caracappa
Recommended Starting Semester	Fall 2022
<b>Today's Date</b>	February 10, 2022
Abstract	<p>The Toyota T-TEN AAS is a new select program that prepares students for a career in the transportation technology field repairing Toyota* vehicles, thus filling a need in the regional transportation industry. In partnership with Toyota, the program includes eighteen new courses in the approved Toyota T-TEN curriculum that provide a competitive advantage and prepare students for Toyota certification exams and the completion of the required 640 hours of internship. T-TEN stands for Technician Training and Education Network.</p> <p>*Reference to Toyota vehicles and dealerships also includes Lexus vehicles and dealerships, which are a part of the Toyota T-TEN program.</p>

**I. Alignment with the College Mission**

The Toyota T-TEN program will prepare students for a career in the transportation technology field repairing Toyota vehicles. T-TEN stands for Technician Training and Education Network. The program will incorporate substantial work-based learning opportunities with students employed by Philadelphia-area Toyota dealerships while attending the T-TEN program. This puts the student in an excellent position to help them complete the program with little to no debt while placing them in a dealership that could lead to permanent position after program completion. The transportation industry in Philadelphia is in need of qualified well-trained individuals to meet the need of the residents of Philadelphia.<sup>1</sup> Please see the Dealer Intern Needs Summary for Fall 2022 in the Appendix.

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<sup>1</sup> <https://work.chron.com/growth-need-auto-mechanics-25571.html>

## **II. Expected Program Participants**

The T-TEN program will serve the need of students interested in working while they are learning in a highly technical field. The students who excel at this program will be prepared to start employment at an area dealership while going to school reducing their financial burden. The students who complete the program will have an excellent opportunity to gain permanent employment at a Philadelphia-area Toyota dealership at a level that would take an employee without this training five years to reach the same skill level. The T-TEN program accelerates the student's path and earnings.

The T-Ten program is a select program. The program is restricted to only full time students, who are college ready, have a valid driver's license, pass a drug screening, have or can acquire an approved tool set (the tool list will be provided during the interview) and have been through an interview with the program coordinator. As part of the application process to the program, students will be connected with a participating Toyota dealership for an interview. Prior to acceptance into the program, a participating Toyota dealership must agree to employ the student while the student also completes their coursework. Work-based learning is an essential component of the AAS Toyota T-TEN degree program, and student class and work schedules will be coordinated by Community College of Philadelphia staff.

The first-year cohort will be limited to twenty students, and recruitment will be based on our yearly Philadelphia-area dealership survey. The program will add a second cohort in year two of the program. The Transportation Technologies department will employ a recruitment strategy based on dealership location and the student's willingness to travel to employment locations. We have found students like to work near where they live, so once we get an idea of the dealerships' needs, we will seek students based on their geographical location in relationship to the dealerships. Please see the Dealer Intern Needs Summary for Fall 2022 in the Appendix.

Students who are interested in the T-TEN program will be asked to take their placement tests early enough to provide a pathway through English and foundational mathematics courses to get them ready to start in the Fall.

## **III. Opportunities and/or Problems that the Proposed Program Addresses**

The local Philadelphia-area Toyota dealership group consists of approximately twenty Toyota and Lexus dealerships. When surveying these dealers, they all state they could use two to four T-TEN students immediately. This information is reinforced at the corporate level. Please see the Dealer Intern Needs Summary for Fall 2022 in the Appendix.

The Toyota curriculum includes all recruitments to meet our current accreditation with the Automotive Service Excellence-Education Foundation (previously NATEF). Students who graduate the Toyota T-Ten program are expected to take and pass two ASEEF certifications when they complete the program.



#### IV. Program Structure and Coherence

To be admitted into the Toyota T-TEN program, a select program that will begin with a cohort of twenty, students must meet all admission requirements of the College as well as other requirements, such as college-readiness, a mechanical aptitude test, drug screening, interview, and program orientation. T-TEN students must follow the prescribed course sequence each semester, unless approval is granted by the Program Director.

Each fall and spring semester and during the summer terms, students simultaneously complete their coursework at the College and their paid internship work at their dealership employer. Typically, students will take courses two days a week and work at their dealership two to three days a week. Coursework is primarily scheduled during seven-week terms, and students complete their six internships during fourteen or fifteen-week terms.

Students begin hands-on learning in their first internship course in the first semester, while learning the fundamentals of Toyota automotive service and completing general education requirements for ENGL 101 and quantitative reasoning. In the second semester, hands-on learning in their internship experience continues in their second internship course as they learn more about the Toyota electrical system, steering, and suspension while also completing their general education requirement for cultural analysis and interpretation. In the following summer sessions, students focus on Toyota automotive brake systems and heating and air conditioning, and their third internship course. In their second year, students first work on transmissions, drive trains, and engine repair, complete their oral communication/creative expression requirement, and begin to engage in more advanced hands-on learning in their fourth internship course. The spring semester brings advanced instruction in engine performance as well as the completion of their scientific reasoning requirement and fifth internship course. The final semester, while in their sixth internship course, students do advanced study in automatic transmission and axle repair and delve into hybrid technology.

#### V. Assessment Plan

<b>Program Learning Outcome</b>	<b>Method(s) of Assessment</b>	<b>Semester and Year Assessed</b>
Demonstrate proficiency in use of specialized automotive service tools and electronic diagnostic equipment on Toyota vehicles	Physical demonstration and oral, objective, or written assessment	Summer semester every year
Analyze service information (technical bulletins, repair data and vehicle recalls) to diagnose and repair Toyota vehicles.	Physical demonstration and oral, objective, or written assessment	Summer semester every year
Demonstrate ethical and safe industry practices as a transportation professional for Toyota.	Physical demonstration and oral, objective, or written assessment	Summer semester every year

<b>Program Learning Outcome</b>	<b>Method(s) of Assessment</b>	<b>Semester and Year Assessed</b>
Apply basic foundational concepts to maintain, diagnose and repair Toyota vehicles	Physical demonstration and oral, objective, or written assessment	Summer semester every year

## **VI. Effect on Other Programs and Courses**

The T-TEN program will add an additional pathway for Transportation Technology students. This pathway is more demanding and heavily focused on a specific career path as a technician for Toyota that, due to its accelerated pace, has the ability to reduce the time it takes to become a journeyman level technician. Our current Automotive Technology program gives access to similar learning opportunities but allows for the more flexibility in the general study of automotive technology without following the specific curriculum or work requirements of a manufacturer. Because of the prescribed process for recruitment, we don't think Toyota T-TEN program will drastically affect the enrollments for the Automotive Technology program; instead, because of the specific recruitment that will be needed, we think, overall, it will enhance our enrollments by reaching students who had not considered Community College of Philadelphia previously.

## **VII. Proposed New Courses**

The program courses are offered in a seven-week format meeting either two or three times weekly and for six to seven hours per day. While the students are in their automotive courses, they will also be taking general education courses in a seven-week format simultaneously. This is a very strict schedule that students will need to adhere to, or they may be asked to move to the general program (Automotive Service Technology) or extend their program to complete the academic requirements.

### **ATEN 101 Introduction to Toyota Automotive Service                      2-4.5-3 (80 Contact Hours)**

**Course Description:** This course is an introduction to the field of automotive technology. It is designed to provide students with the skills and knowledge for success in the Automotive Technology program and the automotive industry. Topics include an overview of the current automotive field, as well as practice in modern automotive systems and shop procedures.

#### **Course Learning Outcomes:**

1. Implement dealership functions, operations, and expectations
2. Navigate service information
3. Use safety procedures
4. Take basic measurements and conversions
5. Develop tool use, safety, and torque procedures
6. Conduct pre-delivery and multi-point inspections
7. Complete oil change and express maintenance
8. Conduct tire repair and service
9. Complete battery testing, service and charging procedures

10. Implement bolt and thread repair

**ATEN 111 Toyota Steering and Suspension**

**2-8-4 (128 Contact Hours)**

**Course Description:** Study of the fundamental theory, maintenance and repair of automobile steering and suspension systems. Emphasis is placed upon subject matter recommended by industry through the National Automotive Technicians Education Foundation (NATEF). This course is designed to help prepare students for the Automotive Service Excellence (ASE) certification exam in group 4: Steering and Suspension. It incorporates substantial hands-on training with both demonstrator units and Toyota vehicles in the Career and Advanced Technology Center.

**Course Learning Outcomes:**

1. Complete Wheel Alignment Theory and Diagnosis
2. Conduct Suspension System Inspection and Diagnosis
3. Conduct Steering System Inspection and Diagnosis
4. Complete Tire and Wheel Inspection and Service
5. Implement Vehicle Handling/Tire Wear Diagnosis and NVH Measurements

**ATEN 121 Toyota Electrical System I**

**2-8-4 (128 Contact Hours)**

**Course Description:** This course is a study of the fundamental theory and applications of electrical and electronic principles in the automotive industry. Emphasis is placed on subject matter recommended by the industry through the National Automotive Technicians Educational Foundation (NATEF). This course, in conjunction with ATEN 221 is designed to help prepare students for the Automotive Service Excellence (ASE) exam in group 6: Electrical and Electronic Systems and incorporates substantial hands-on training with both demonstrator units and Toyota vehicles utilizing state-of-the-art electronic test equipment in the Career and Advanced Technology Center.

**Course Learning Outcomes:**

1. Complete circuit board analysis
2. Conduct battery testing, and diagnosis
3. Develop voltage drop diagnosis without multiplex
4. Diagnose starting and charging systems
5. Diagnose voltage drop with multiplex

**ATEN 131 Toyota Manual Transmission and Drivetrains**

**2-6-3 (96 Contact Hours)**

**Course Description:** Study of the fundamental design, theory, maintenance and repair of manual transmissions, manual transaxles, driveline couplings and differentials. Emphasis is placed upon subject matter recommended by industry through the National Automotive Technicians Education Foundation (NATEF). This course is designed to help prepare students for the Automotive Service Excellence (ASE) certification exam in group 3: Manual Drive Train and Axles. This course is a prerequisite for AT 241: Automatic Transmissions and Trans-axles, and

incorporates substantial hands- on training with both demonstrator units and Toyota vehicles utilizing state-of-the-art equipment in the Career and Advanced Technology Center.

**Course Learning Outcomes:**

1. Identify drivetrain system layouts, components, and gear ratio types
2. Identify drivetrain fluid types and perform drivetrain fluid inspection and service
3. Service, repair, and diagnose axles
4. Service, repair, and diagnose clutch disc, flywheel, and clutch cover
5. Service, repair, and diagnose clutch hydraulic control system
6. Service, repair, and diagnose manual transmission/transaxles
7. Service, repair, and diagnose differential
8. Service, repair, and diagnose four wheel drive
9. Service, repair, and diagnose axles all-wheel drive

**ATEN 150 Toyota Automotive Brake Systems**

**2-8-4 (128 Contact Hours)**

**Course Description:** Study of the fundamental design, theory, maintenance and repair of the hydraulic braking system. Emphasis is placed upon subject matter recommended by industry through the National Automotive Technicians Education Foundation (NATEF). This course (along with AT 250) is designed to help prepare students for the Automotive Service Excellence (ASE) certification exam in group 5: Brakes. This course is a prerequisite for AT 250: Advanced Braking Systems and Controls. It incorporates substantial hands-on training with both demonstrator units and Toyota vehicles utilizing state-of-the-art equipment in the Career and Advanced Technology Center.

**Course Learning Outcomes:**

1. Identify brake system fundamentals, design, components, function, performance standards, regulations and safety/service precautions
2. Service, repair, and diagnose brake hydraulic system
3. Service, repair, and diagnose disc brake
4. Service, repair, and diagnose drum brake
5. Service, repair, and diagnose brake power assist system
6. Service, repair, and diagnose ABS/VSC system

**ATEN 181 Toyota Engine Repair**

**2-8-4 (128 Contact Hours)**

**Course Description:** Study of the fundamental theory and repair of automotive gasoline engines. Emphasis is placed upon subject matter recommended by industry through the National Automotive Technicians Education Foundation (NATEF). This course is designed to help prepare students for the Automotive Service Excellence (ASE) certification exam in group 1: Engine Repair. Course incorporates disassembly, inspection, machining and rebuilding of an actual engine in the Automotive Technology Center.

**Course Learning Outcomes:**

1. Service, repair, and diagnose internal combustion engine
2. Service, repair, and diagnose valve train
3. Conduct engine service and repair
4. Service, repair, and diagnose cylinder block and lower end
5. Reassemble A25A-FKS engine
6. Service, repair, and diagnose lubrication system
7. Service, repair, and diagnose cooling system

**ATEN 221 Toyota Electric System II****2-8-4 (128 Contact Hours)**

**Course Description:** Study of the advanced theory, diagnostics and repair of automotive electrical and electronic systems, emphasizing computerized controls, hybrid and industry-specific vehicles that have these advanced technologies. Emphasis is placed upon subject matter recommended by industry through the National Automotive Technicians Education Foundation (NATEF). This course is designed to help prepare students for the Automotive Service Excellence (ASE) certification exam in group 6: Electrical and Electronic Systems.

**Course Learning Outcomes:**

1. Perform network communications, signal and component testing
2. Diagnose body electrical network with multiplex
3. Service, repair, and diagnose instrumentation
4. Service, repair, and diagnose advanced lighting
5. Service, repair, and diagnose smart key/entry and immobilizer
6. Diagnose infotainment system
7. Diagnose navigational systems
8. Diagnose back-up camera
9. Diagnose heated glass
10. Service, repair and diagnose supplemental restraint system
11. Service, repair, and diagnose occupancy detection
12. Service, repair, and diagnose cruise control system
13. Service, repair, and diagnose proximity detection
14. Safely service, maintain and effectively diagnose the non-hybrid systems that are related to maintenance operations on Toyota hybrid vehicles

**ATEN 241 Toyota Automatic Transmission and Transaxle Repair 2-6-3 (96 Contact Hours)**

**Course Description:** Study of the fundamental theory, maintenance and repair of the automatic transmissions and transaxles, including electronic controls. Emphasis is placed upon subject matter recommended by industry through the National Automotive Technicians Education Foundation (NATEF). This course is designed to help prepare students for the Automotive Service Excellence (ASE) certification exam in group 2: Automatic Transmission and Transaxles. This course incorporates substantial hands-on training. Students will disassemble,

inspect, repair and reassemble an automatic transmission. Diagnostic testing will include usage of a state-of-the-art dynamometer in the Career and Advanced Technology Center.

**Course Learning Outcomes:**

1. Perform transmission replacement and service procedures
2. Service, repair, and diagnose transmission
3. Complete U660E/U760E/AB60E unit overhaul and exploration
4. Diagnose automatic transmission
5. Operate and diagnose CVT

**ATEN 261 Toyota Engine Performance**

**2-8-4 (128 Contact Hours)**

**Course Description:** Study of the fundamental theory, maintenance and repair of automotive fuel, ignition and emission control systems. Emphasis is placed upon subject matter recommended by industry through the National Automotive Technicians Education Foundation (NATEF). This course is designed in conjunction with AT 281 to help prepare students for the Automotive Service Excellence (ASE) certification exam in group 8: Engine Performance. This course incorporates substantial hands-on training utilizing state-of-the-art diagnostic equipment in the Career and Advanced Technology Center.

**Course Learning Outcomes:**

1. Diagnose engine control system
2. Diagnose ECM input / sensor
3. Diagnose ignition system
4. Diagnose air, fuel, and exhaust system faults
5. Diagnose No-Start of the air, fuel, & sensor systems

**ATEN 271 Toyota Heating and Air Conditioning**

**2-6-3 (96 Contact Hours)**

**Course Description:** Study of the fundamental theory, maintenance and repair of automobile air conditioning and heating systems. Emphasis is placed upon subject matter recommended by industry through the National Automotive Technicians Education Foundation (NATEF). This course is designed to prepare students for the Automotive Service Excellence (ASE) certification exam in group 7: Heating and Air Conditioning. This course incorporates substantial hands-on training with both demonstrator units and customer vehicles in the Career and Advanced Technology Center. Topical coverage includes both R134a and 1234yf systems.

**Course Learning Outcomes:**

1. Identify HVAC systems
2. Safely store refrigerant
3. Perform evacuate & recharge operation
4. Conduct evaporator / heater case service
5. Complete compressor removal and repair

6. Conduct condenser, drier and line service
7. Diagnose HVAC pressure
8. Complete heater system basics
9. Diagnose HVAC unit, controls, and actuator
10. Conduct climate controlled seat service

### **ATEN 281 Advanced Toyota Engine Performance**

**2-8-4 (128 Contact Hours)**

**Course Description:** Advanced study of the fundamental theory, maintenance and repair of basic automotive fuel, ignition, emission control systems and alternative fuel vehicle systems. Emphasis is placed upon subject matter recommended by industry through the National Automotive Technicians Education Foundation (NATEF). This course is designed in conjunction with AT 261 to help prepare students for the Automotive Service Excellence (ASE) certification exam in group 8: Engine Performance.

#### **Course Learning Outcomes:**

1. Identify Manufacturer Specific OBD II Operation & Application
2. Conduct Misfire Monitor Operation & Diagnosis
3. Complete Fuel System Monitor Operation & Diagnosis
4. Conduct Emission System Diagnosis
5. Complete No-Start / Drivability Diagnosis

### **ATEN 282 Toyota Hybrid Technology**

**2-4.5-3 (80 Contact Hours)**

**Course Description:** This course examines the development and use of hybrid electric systems as they are currently used in Toyota vehicles, and how these systems differ from those used in conventional vehicles. Students learn the systems, diagnoses, and repair of hybrid electric system vehicles as well as important safety practices.

#### **Course Learning Outcomes:**

1. Use the manufacturer's standard safety precautions when working with Toyota hybrid electric drive systems.
2. Test and diagnose Toyota hybrid electric drive system faults
3. Repair and replace specific Toyota hybrid electric drive system components, including the high voltage battery, hybrid AC-DC inverter, hybrid DC-DC converter, and brushless electric drive motor, in accordance with manufacturer's standards.

### **ATEN 294 Toyota Internship I**

**0-8-1 (107 Work Hours)**

**Course Description:** In Toyota Internship I, students are introduced to the service department and dealership environment. Students begin the course by observing department routines and procedures. After classroom and laboratory instruction, students move into a more active role, assisting and performing vehicle service activities and repair procedures under appropriate

supervision. Internship I experiences include general maintenance service, fluid inspection and changes, battery service, charging system diagnosis and starter replacement.

**Course Learning Outcomes:**

1. Complete various maintenance and electrical service procedures.

**ATEN 295 Toyota Internship II**

**0-8-1 (107 Work Hours)**

**Course Description:** During Toyota Internship II, students become more familiar with the service department and dealership environment. Students continue to observe department routines and procedures relevant to classroom and laboratory activities. After classroom and laboratory instruction, students move into a more active role, assisting and performing vehicle service activities and repair procedures under appropriate supervision. Internship II experiences include general maintenance service, tire rotation, steering inspection, strut and shock service, and vehicle alignments.

**Course Learning Outcomes:**

1. Complete various service procedures that deal with steering and suspension concerns.

**ATEN 296 Toyota Internship III**

**0-8-1 (107 Work Hours)**

**Course Description:** During Toyota Internship III, students become more familiar with the service department and dealership environment. Students continue to observe department routines and procedures relevant to classroom and laboratory activities. After classroom and laboratory instruction, students move into a more active role, assisting and performing vehicle service activities and repair procedures under appropriate supervision. Internship III experiences include general maintenance service, brake system repair, refinishing rotors and drums when appropriate, diagnosing brake noise, repairing HVAC systems, evacuating refrigerant, charging the air conditioning system, replacing thermostat and water pump, replacing the radiator, and servicing the HVAC system.

**Course Learning Outcomes:**

1. Complete various service procedures within the Heating and Air Conditioning system.

**ATEN 297 Toyota Internship IV**

**0-8-1 (107 Work Hours)**

**Course Description:** During Toyota Internship IV, students become more familiar with the service department and dealership environment. Students continue to observe department routines and procedures relevant to classroom and laboratory activities. After classroom and laboratory instruction, students move into a more active role, assisting and performing vehicle service activities and repair procedures under appropriate supervision. Internship IV experiences include general maintenance service, replacing the manual transmission fluid, replacing the



clutch, diagnosing driveline vibration, replacing axles and driveshafts, Replacing timing belts, replacing head gaskets, repairing oil leaks, removing valve cover gaskets and diagnosing engine noise.

**Course Learning Outcomes:**

1. Complete various service procedures dealing with engine repair.

**ATEN 298 Toyota Internship V**

**0-8-1 (107 Work Hours)**

**Course Description:** During Toyota Internship V, students become more familiar with the service department and dealership environment. Students continue to observe department routines and procedures relevant to classroom and laboratory activities. After classroom and laboratory instruction, students move into a more active role, assisting and performing vehicle service activities and repair procedures under appropriate supervision. Internship V experiences include general maintenance service, replacing engine sensors, diagnosing misfire concerns, diagnosing emission system faults, repairing diagnostic trouble codes, conducting engine performance tests and analyzing the results.

**Course Learning Outcomes:**

1. Complete various engine performance related services.

**ATEN 299 Toyota Internship VI**

**0-8-1 (107 Work Hours)**

**Course Description:** During Toyota Internship VI, students become more familiar with the service department and dealership environment. Students continue to observe department routines and procedures relevant to classroom and laboratory activities. After classroom and laboratory instruction, students move into a more active role, assisting and performing vehicle service activities and repair procedures under appropriate supervision. Internship VI experiences include general maintenance service, diagnosing vehicle shifting issues, replacing automatic transmission fluid, conducting a vehicle stall tests, analyzing pressure test results, replacing shift solenoid, testing high voltage batteries, replacing the inverter, diagnosing vehicle high voltage convertor, and testing the electric motor/generators.

**Course Learning Outcomes:**

1. Complete Hybrid vehicle repair procedures

**VIII. Fiscal Implications**

The reason we are able to add the Toyota T-TEN program is the construction of the Career and Advanced Technology Center (CATC) and that includes the expansion of the automotive technical classrooms and lab facility. All the Toyota training vehicles are being donated by Toyota as well as many of the technical tools including:

- Six Panasonic Toughbooks to be used with Toyota Techstream software
- 16 ATECH 1810 basic diagnostic lab kits
- Manufacturer Service Information
- 20-25 vehicles
- And 10 or more Engine, Transmission and Driveline assemblies
- This list will continue to grow over time and vehicles will be replaced every 5 years as technology changes

There will be expenses occurring at times, like cabinetry specifically built to store all the vehicle specialty tools required to work on all different areas of the vehicle.

There is a section in the Toyota handbook that talks about specified Toyota signage and paint schemes that may also be necessary in one of the classrooms.

## IX. Catalog Page

### Toyota T-TEN

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**Description:** The transportation industry is in need of qualified well-trained individuals to meet the automotive technology needs of residents in the Greater Philadelphia region. The Toyota T-TEN program prepares students for a career in the transportation technology field repairing Toyota and Lexus vehicles. T-TEN stands for Technician Training and Education Network. The program incorporates substantial work-based learning opportunities, as students are employed by Greater Philadelphia-area Toyota and Lexus dealerships as a requirement of completing the T-TEN program. This puts the student in an excellent position to complete the program with little to no debt while placed in a dealership that could lead to a permanent position after program completion.

The T-TEN program is open to students in the region who live outside of Philadelphia County. All students admitted into the T-TEN program will pay in-county tuition rates. However, the T-TEN program is select and enrollment in the program is limited. The program is restricted to full time students who are college ready, have a valid driver's license, pass a drug screening, have or can acquire an approved tool kit (financial assistance may be available) and interview with the Program Coordinator.

Work-based learning is an essential component of the Toyota T-TEN program, with student class and work schedules alternating in a coordinated manner. Prior to acceptance into the Toyota T-TEN program, student applicants will be connected to participating dealerships seeking to hire paid interns from the program. Students must receive an internship offer from a participating dealership prior to acceptance into the program.

The Toyota T-TEN program is located at the Career and Advanced Technology Center (CATC).

## Program Learning Outcomes:

Upon successful completion of this program, students will be able to:

- Demonstrate proficiency in the use of specialized automotive service tools and electronic diagnostic equipment on Toyota vehicles
- Analyze service information (technical bulletins, repair data and vehicle recalls) to diagnose and repair Toyota vehicles.
- Demonstrate ethical and safe industry practices as a transportation professional for Toyota.
- Apply basic foundational concepts to maintain, diagnose and repair Toyota vehicles

**Program Entry Requirements:** Admission into the T-TEN program is selective and requires potential students to fulfill all admission requirements of the College. Enrollment in the program is limited.

Students must meet the following minimum requirements before applying to the T-TEN Program:

- High school diploma or GED documentation
- Demonstration of readiness for [ENGL 101](#) and [FNMT 118](#) as determined by the College's placement tests, or by successfully completing developmental coursework
- Minimum high school grade point average of 2.50\*
- Have valid state driver's license
- Applicants must be at least 18 years of age by the start of the Toyota Internship experience.

\*Current Community College of Philadelphia students can also apply with a cumulative grade point average of 2.50.

Applicants who are new to the College must begin the application process by first applying to the College. Transcript evaluation and completion of a placement test (or test waiver) is required. Apply to the College [here](#).

Current Community College of Philadelphia students can begin the T-TEN program application process [here](#). (link to the application)

Applicants who complete and meet the requirements above will be eligible to continue in the admissions process and will be contacted, in writing, concerning the scheduling of an admissions interview with the Program Coordinator (or designee). A scheduled interview does not guarantee admission. Upon completion of the admissions interview, the Program Coordinator (or designee) will review all applications with particular attention to:

1. Cumulative grade point average
2. Strength of secondary/post-secondary academic curriculum
3. Mechanical aptitude test
4. Extracurricular activities, community service, and work experience
5. Personal interview

## Conditions for Acceptance

All applicants are notified in writing regarding the admissions decision. All offers of acceptance are contingent upon successful completion of the following:

1. Acknowledgement of Core Performance Standards for Automotive Programs and physical demand analysis.
  - Technical applied education requires a full range of motion, including pushing, pulling, twisting, lifting and bending. Standing and walking are required for the entire day (eight hours).
  - Students who are registered with the [Center on Disability](#) must inform the Program Coordinator if accommodations are required.
2. Completion of Drug Screening
  - A positive screening results in denial of admission into the T-TEN Program.
3. Acknowledgement of full time attendance requirement, including internship work schedule and prior dealership employment agreement, signed.

Additional conditions for Program commencement include:

- Attendance at scheduled Program orientation prior to entry.
- Purchase of approved tool kit.

The T-TEN program reserves the right to dismiss any student:

- Who fails to meet the standards set by their internship employer and the student is dismissed by the employer.
- Whose general conduct is determined detrimental to the College and its affiliates, including loss of driver's license and /or
- Who does not meet the scholastic requirements of the T-Ten program. A student who earns a grade of "D" or lower in any course will be dismissed from the program.

## Program of Study and Graduation Requirements:

- T-TEN students must follow the curriculum sequence according to courses listed in each semester, unless approval is granted by the Program Coordinator.
- Students in the T-TEN curriculum may be dropped at any time if, in the opinion of the Faculty and Program Coordinator, such students are not suited to be Toyota Technicians. These students will be moved into the AST program.
- Students whose attitude and behavior are considered unprofessional may be dropped from the curriculum, pending a review by the Faculty, Program Coordinator and Advisory Committee. These students maybe moved to the AST program.
- Students may not continue in the T-TEN curriculum with a grade of "D" or below in any T-TEN or general education course. These students maybe moved to the AST program
- Pass all Toyota Certification Program final exams with a score of 80% or better
- Complete 640 hours of internship as a technician trainee in a Toyota or Lexus dealership
- Complete the T-PORT manual and supporting journals
- Pass 2 ASE certifications, either A1-A8 or L1

- Complete the required E-learning modules in Toyota Certification Program
- Pass all instructor led Toyota course final exams
- Complete 70 credit hours as prescribed in the course sequence

**Please Note:** It is possible for a student to pass all their automotive courses and graduate from the College without receiving T-TEN certification. This will happen when students may be lacking the internship hours, ASE certifications, or E-learning requirements to graduate T-TEN. In this scenario, the student may be moved to the AAS Automotive Technology program or delay T-TEN program completion up to 2 years to acquire the necessary items to graduate T-TEN.

## X. Course Sequence

### Course Sequence:

Fall Year I

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Requirements
ATEN 101- Introduction to Toyota Automotive Service (7 week) early		3	
ENGL 101 - English Composition I (7 week) early		3	Writing, Research, Info Lit I
ATEN 294 - Toyota Internship I(14 week)	ATEN 101	1	
ATEN 121 - Toyota Electrical System I (7 week) late	ATEN 101	4	
FNMT 118 - Intermediate Algebra (7 week) late		3	Quantitative Reasoning

Spring Year 1

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Requirements
ATEN 221 - Toyota Electrical System II (7 week) early	ATEN 121, FNMT 118	4	
ENGL 102 - The Research Paper (7 week) early	ENGL 101 with a grade of "C" or better	3	Writing, Research, Info Lit
ATEN 295 - Toyota Internship II	ATEN 121	1	
ATEN 111 - Toyota Steering and Suspension (7 week) late		4	
<a href="#">ANTH 112 - Cultural Anthropology</a> or <a href="#">HIST 101 - United States History: Colonial America through the Revolutionary Period</a> or <a href="#">HIST 102 - United States History: The Civil War and the 19th</a>		3	Cultural Analysis and Interpretation

<b>Course Number and Name</b>	<b>Prerequisites and Corequisites</b>	<b>Credits</b>	<b>Gen Ed Requirements</b>
<a href="#">Century</a> or <a href="#">HIST 103 - United States History: The 20th Century and Beyond</a> or <a href="#">HIST 151: History of Capitalism</a> or <a href="#">SOC 101- Introduction to Sociology</a>			

Summer Year I

<b>Course Number and Name</b>	<b>Prerequisites and Corequisites</b>	<b>Credits</b>	<b>Gen Ed Requirements</b>
ATEN 150 - Toyota Automotive Brake Systems (7 weeks) early	ATEN 111	4	
ATEN 296 - Toyota Internship III		1	
ATEN 271 - Toyota Heating and Air Conditioning (7 weeks) late	ATEN 221	3	

Fall Year 2

<b>Course Number and Name</b>	<b>Prerequisites and Corequisites</b>	<b>Credits</b>	<b>Gen Ed Requirements</b>
ATEN 131 - Toyota Manual Transmission and Drivetrains (7 weeks) early	ATEN 150	3	
CIS 103 - Computer Applications & Concepts (7 weeks) early		3	Technological Competency
ATEN 297 - Toyota Internship IV		1	
ATEN 181 - Toyota Engine Repair (7 weeks) late	ATEN 271	4	
ART 105 - Drawing I or ENGL 115 - Public Speaking or ENGL 116 - Interpersonal or Communication or ENGL 117 - Group and Team Communication or ENGL 118 - Intercultural Communication or PJMT 130 - Project Management Communications	ENGL 115, 116, 117, 118: ENGL 101, which may be taken concurrently	3	Oral Communication/ Creative Expression

Spring Year 2

<b>Course Number and Name</b>	<b>Prerequisites and Corequisites</b>	<b>Credits</b>	<b>Gen Ed Requirements</b>
ATEN 261 - Toyota Engine Performance (7 week) early	ATEN 181	4	

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Requirements
AET 101 - Introduction to Robotics or AET 102 - Scientific Technology and Public Policy or AET 140 - 3D Printing - Additive Manufacturing or BIOL 106 - General Biology I or CHEM 101 - Fundamentals of Chemistry I (Lab Based) or CHEM 103 - Fundamentals of Chemistry I (Non-Lab Based) or CHEM 105 - Inquiry into Chemistry or EASC 111 - Environmental Conservation or PHYS 105 - Survey of Physics or PHYS 111 - General Physics I or	PHYS 105: <a href="#">FNMT 118</a> (or higher) placement or a passing grade in <a href="#">FNMT 017</a> (or higher)  PHYS 111: <a href="#">MATH 162</a> or <a href="#">Math 171</a> or <a href="#">MATH 171</a> placement	3 or 4	Scientific Reasoning
ATEN 298 - Toyota Internship V		1	
ATEN 281 - Advanced Toyota Engine Performance (7 week) late	ATEN 261	4	

#### Summer Year 2

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Requirements
ATEN 241 - Toyota Automatic Transmission and Transaxle Repair (7 weeks) early	ATEN 131	3	
ATEN 299 - Toyota Internship VI		1	
ATEN 282 - Toyota Hybrid Technology (7 weeks) late	ATEN 281	3	

#### Minimum Credits Needed to Graduate: 70

**General Education Requirements:** All general education requirements necessary for graduation are met through the courses in the program as indicated above. Students who wish to take courses that differ from the general education courses indicated above must complete a course substitution request form. To access the form, login to the [MyCCP portal](#), and in the **Student** tab, under **Electronic Forms**, click on the **Records and Registration Forms** link, then choose **Request for Course Substitution of Graduation Requirement** link. A [more detailed explanation](#) of the College's general education requirements is also available.

**For More Information, Contact:** The Division of Business and Technology, Room B2-22, 1700 Spring Garden Street, Philadelphia, PA 19130, Telephone (215) 751-8414 or the College Information Center (215) 751-8010.

## XI. Courses and Completion Sequence

The following courses and sequence of courses is designed for the optimal success and completion of the Toyota T-TEN degree/certificate. Any alterations should be discussed with your academic advisor.

### Fall Year 1

Course Number and Name	Advisory Notes	Credits	Course Type
ATEN 101- Introduction to Toyota Automotive Service (7 week) early		3	Major Course
ENGL 101 - English Composition I (7 week) early		3	Writing, Research, Info Lit I
ATEN 294 - Toyota Internship I (14 week)	ATEN 101	1	Major Course
ATEN 121 - Toyota Electrical System I (7 week) late	ATEN 101	4	Major Course
FNMT 118 - Intermediate Algebra (7 week) late		3	Quantitative Reasoning

### Spring Year 1

Course Number and Name	Advisory Notes	Credits	Course Type
ATEN 221 - Toyota Electrical System II (7 week) early	ATEN 121, FNMT 118	4	Major Course
ENGL 102 - The Research Paper (7 week) early	ENGL 101 with a grade of "C" or better	3	Writing, Research, Info Lit
ATEN 295 - Toyota Internship II	ATEN 121	1	Major Course
ATEN 111 - Toyota Steering and Suspension (7 week) late		4	Major Course
<a href="#">ANTH 112 - Cultural Anthropology</a> or <a href="#">HIST 101 - United States History: Colonial America through the Revolutionary Period</a> or <a href="#">HIST 102 - United States History: The Civil War and the 19th Century</a> or <a href="#">HIST 103 - United States History: The 20th Century and Beyond</a> or <a href="#">SOC 101- Introduction to Sociology</a>		3	Cultural Analysis and Interpretation



Upon completion of the second semester, students should attempt two Automotive Service Excellence (ASE) exams.

Summer Year 1

<b>Course Number and Name</b>	<b>Advisory Notes</b>	<b>Credits</b>	<b>Course Type</b>
ATEN 150 - Toyota Automotive Brake Systems (7 weeks) early	ATEN 111	4	Major Course
ATEN 296 - Toyota Internship III		1	Major Course
ATEN 271 - Toyota Heating and Air Conditioning (7 weeks) late	ATEN 221	3	Major Course

Fall Year 2

<b>Course Number and Name</b>	<b>Advisory Notes</b>	<b>Credits</b>	<b>Course Type</b>
ATEN 131 - Toyota Manual Transmission and Drivetrains (7 weeks) early	ATEN 150	3	Major Course
CIS 103 - Computer Applications & Concepts (7 weeks) early		3	Technological Competency
ATEN 297 - Toyota Internship IV		1	Major Course
ATEN 181 - Toyota Engine Repair (7 weeks) late	ATEN 271	4	Major Course
ART 105 - Drawing I or ENGL 115 - Public Speaking or ENGL 116 - Interpersonal or Communication or ENGL 117 - Group and Team Communication or ENGL 118 - Intercultural Communication or PJMT 130 - Project Management Communications		3	Oral Communication/ Creative Expression

Spring Year 2

<b>Course Number and Name</b>	<b>Advisory Notes</b>	<b>Credits</b>	<b>Course Type</b>
ATEN 261 - Toyota Engine Performance (7 week) early	ATEN 181	4	Major Course
AET 101 - Introduction to Robotics or AET 102 - Scientific Technology and Public Policy or AET 140 - 3D Printing - Additive Manufacturing or		3 or 4	Scientific Reasoning

<b>Course Number and Name</b>	<b>Advisory Notes</b>	<b>Credits</b>	<b>Course Type</b>
BIOL 106 - General Biology I or CHEM 101 - Fundamentals of Chemistry I (Lab Based) or CHEM 103 - Fundamentals of Chemistry I (Non-Lab Based) or CHEM 105 - Inquiry into Chemistry or EASC 111 - Environmental Conservation or PHYS 105 - Survey of Physics or PHYS 111 - General Physics I or	PHYS 105: <a href="#">FNMT 118</a> (or higher) placement or a passing grade in <a href="#">FNMT 017</a> (or higher)  PHYS 111: <a href="#">MATH 162</a> or <a href="#">Math 171</a> or <a href="#">MATH 171</a> placement		
ATEN 298 - Toyota Internship V		1	Major Course
ATEN 281 - Advanced Toyota Engine Performance (7 week) late	ATEN 261	4	Major Course

Summer Year 2

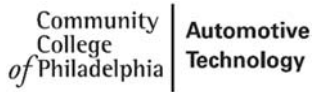
<b>Course Number and Name</b>	<b>Advisory Notes</b>	<b>Credits</b>	<b>Course Type</b>
ATEN 241 - Toyota Automatic Transmission and Transaxle Repair (7 weeks) early	ATEN 131	3	Major Course
ATEN 299 - Toyota Internship VI		1	Major Course
ATEN 282 - Toyota Hybrid Technology (7 weeks) late	ATEN 281	3	Major Course

## XII. Curriculum Map

**Key:** **I**—Introduced                      **R**—Reinforced and opportunity to practice  
**M**—Mastery at exit level              **A**—Assessment evidence collected

Required Courses	Program Learning Outcomes			
	Demonstrate proficiency in use of specialized automotive service tools and electronic diagnostic equipment on Toyota vehicles	Analyze service information (technical bulletins, repair data and vehicle recalls) to diagnose and repair Toyota vehicles.	Demonstrate ethical and safe industry practices as a transportation professional for Toyota.	Apply basic foundational concepts to maintain, diagnose and repair Toyota vehicles
ATEN 101		I, A	I, A	
ATEN 294		I, A	I, A	
ATEN 121	I, A	I, A	I, A	I, A
ATEN 221	R, A	R, A	R, A	R, A
ATEN 295	R, A	R, A	R, A	R, A
ATEN 111	R, A	R, A	R, A	R, A
ATEN 150	I, A	R, A	R, A	I, A
ATEN 296	R, A	R, A	R, A	R, A
ATEN 271	I, A	R, A	R, A	I, A
ATEN 131	I, A	R, A	R, A	I, A
ATEN 297	R, A	R, A	R, A	R, A
ATEN 181	I, A	R, A	R, A	I, A
ATEN 261	M, A	M, A	M, A	M, A
ATEN 298	M, A	M, A	M, A	M, A
ATEN 281	M, A	M, A	M, A	M, A
ATEN 241	R, A	R, A	R, A	R, A
ATEN 299	M, A	M, A	M, A	M, A
ATEN 282	R, A	M, A	M, A	R

### XIII. Appendix / Data



**Starting Fall 2022**  
**Work at a Toyota or Lexus Dealer.**  
**Earn A degree in automotive technology.**  
**Become factory a factory trained Toyota technician.**



**Scan below and fill out the form, or visit t-ten.com**

#### **T-TEN offers:**

- Training from industry certified instructors in a state-of-the-art facility at our new CATC center in West Philadelphia
- Hands-on training with modern vehicles, and diagnostic and repair equipment
- Internships and work experience – earn a paycheck while going to school!
- Lower tuition costs and less debt than other educational options
- Earn manufacturer certifications from Toyota, working with Toyota products and special tools

#### **T-TEN Student Requirements:**

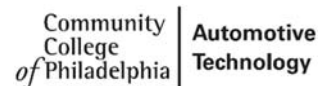
1. Must be at least 18 years of age by the time of the first internship.
2. Be a high school graduate or equivalent.
3. Possess a valid driver license and maintain an employable driving record.
4. Obtain and maintain a dealership sponsor throughout the program.
5. Provide the dealership with a responsible and productive work effort.
6. Maintain dealership attendance standards.
7. Be able to meet CCP and T-TEN admission and academic requirements.
8. Maintain academic standards according to university policy.
9. Participate in all learning activities at scheduled times.
10. Be willing to take a drug test and background check if required by dealer sponsor.
11. Be responsible for program cost (tuition, fees, books tools, housing, meals, supplies, etc.).
12. Participate in ASE testing-passing two (2) tests before graduation.
13. Wear work uniforms and safety glasses during campus and internship educational experiences
14. Become the best Toyota Service Technician you can be.



Program duration – 2 years – Most classes are taken in 7-week terms – Classes follow the standard college calendar for semester breaks, etc.

#### **Semester 1 – Fall 22 /1**

Intro to Toyota and Dealer Internship  
English 101



**Semester 2 – Fall 22/2**

Electrical 1 and Dealer Internship  
FMNT 118

**Semester 3 – Spring 23/1**

Electrical 2 and Dealer Internship  
English 1102

**Semester 4 – Spring 23/2**

Steering and Suspensions and Dealer Internship  
Cultural Studies

**Semester 5 – Summer 23/1**

Brakes and Dealer Internship

**Semester 6 – Summer 23/2**

HVAC and Dealer Internship

**Semester 7 – Fall 23 / 1**

Manual Transmissions and Dealer Internship  
Computer Technologies

**Semester 8 – Fall 23/2**

Engine Repair and Dealer Internship  
Oral communication / Creative expression

**Semester 9 – Spring 23 / 1**

Engine Performance 1 and Dealer Internship  
Scientific Reasoning

**Semester 10 – Spring 23 / 2**

Engine Performance 2 and Dealer Internship

**Semester 11 – Summer 23 / 1**

Automatic Transmissions and Dealer Internship

**Semester 12 – Summer 23 / 2**

Hybrid Technologies and Dealer Internship

**GRADUATE!**



Community College of Philadelphia  
Automotive Technology Program:  
CBI Building, C1-19  
1700 Spring Garden Street - Philadelphia PA  
[autotech@ccp.edu](mailto:autotech@ccp.edu) - (215) 516-3673 – [ccp.edu/auto-tech](http://ccp.edu/auto-tech)

**Dealer Intern Needs Summary for Fall 2022**  
**Community College of Philadelphia**

**October 2021 Survey Results (Nov 9\_21)**

Dealer Name	Interns Needed	Email address	County	State	Closest High Schools			
Peruzzi Toyota (PA)	2	nhartingh@peruzzi.com	Delaware	PA	Souderton Area High School	North Penn HS	Central Bucks HS	Pennridge HS
Ardmore Toyota (PA)	2	<a href="mailto:JFletcher@ardmoretoyota.com">JFletcher@ardmoretoyota.com</a>	Delaware	PA	Lower Merion	Haverford HS	Overbrook HS	West Philly HS
Conicelli Toyota (Springfield PA)	2	jdepre@ctoscars.com	Delaware	PA	Springfield HS	Interboro HS	Strathaven HS	Ridley HS
Conicelli Toyota (Conch PA)	2	MElmore@conicelli.com	Montgomery	PA	Whitemarsh HS	Lankenau HS	Norristown HS	Upper Merion HS
Central City Toyota (Philly PA)	4	jhaberle@centralcitytoyota.com	Philadelphia	PA	West Philly HS	Robeson HS	Sayer HS	Motivation HS
Sloane (Champion) Toyota - (Philly PA)	3	r_hildenbrand01@sloaneautos.com	Philadelphia	PA	Northeast HS	Woodrow Wilson HS	Lincoln HS	Samuel Fels HS
Sloane Toyota - (Glenside PA)	3	David.Meyrick@SloaneAutos.com	Philadelphia	PA	Abington HS	Cheltenham HS	Bishop Mc Devitt HS	Springfield Township HS
Faulkner Toyota (Trevoese PA)	0	rbonino@faulknertoyota.com	Montgomery	PA	MAST Charter	Bensalem HS	Neshaminy HS	George Washington HS
Team Toyota (Langhorne PA)	2	dmorrow@teamtoyota.net	Bucks	PA	Neshaminy HS	Harry S Truman HS	Bensalem HS	Pennsbury West HS
Liberty (Burlington NJ)	2	<a href="mailto:jhotchkiss@libertytoyota.com">jhotchkiss@libertytoyota.com</a>	Burlington	NJ	Burlington City HS	Burlington Township HS	Bristol JS/SR HS	Delran HS
Holman (Mt. Laurel NJ)	2	<a href="mailto:dzane@holmanauto.com">dzane@holmanauto.com</a>	Burlington	NJ	Maple Shade HS	Collingswood HS	Cherry Hill West HS	Haddon TWP HS
Toyota (Runnemede NJ)	No reply	<a href="mailto:lpfeiffer@toyotarun.com">lpfeiffer@toyotarun.com</a>	Camden	NJ	Triton Regional	Haddon Heights JR/SR HS	Audubon HS	Sterling HS
Team Toyota (Glen Mills)	4	joekrupiak@teamtoyotaglenmills.com	Delaware	PA	Delaware County Tech HS	Garnet Valley HS	Chichester HS	Sun Valley HS
Sloane Toyota of Malvern	2	d_hoffman01@sloaneautos.com	Chester	PA	Downingtown HS	Technical College HS	East HS	

**Dealer Intern Needs Summary for Fall 2022**  
**Community College of Philadelphia**

**October 2021 Survey Results (Nov 9\_21)**

Dealer Name	Interns Needed	Email address	County	State	Closest High Schools			
Cherry Hill Lexus	2	jamie@lexusofcherryhill.com	Burlington	NJ	Cherry Hill West HS	Maple Shade HS	Lenape HS	Cherry Hill East HS
Wilkie Lexus	1	tmanley@wilkielexus.com	Delaware	PA	Lower Merion	Haverford HS	Overbrook HS	West Philly HS
Lexus of Chester Springs	2	<a href="mailto:swalls@lexuscs.com">swalls@lexuscs.com</a>	Chester	PA	Downingtown HS	Technical College HS		
Thompson Lexus of Doylestown	2	ryan.alderfer@1800thompson.com	Bucks	PA	Central Bucks West HS	Central Bucks East HS	Middle Bucks HS	
Thompson Lexus of Willow Grove	No reply	marka@1800thompson.com	Montgomery	PA	Upper Moreland HS	Abington HS	Hatboro-Horsham HS	Lower Moreland HS
Koons Lexus (Wilmington)	1	<a href="mailto:Joseph.Sweitzer@Koons.com">Joseph.Sweitzer@Koons.com</a>	New Castle	De	St Elizabeth HS	Howard HS of Technology	Ursuline Academy	
Turnersville Toyota NJ	0	JNorton@penskeautomotive.com	Gloucester	NJ	Washington TWP HS	Timber Creek HS	Camden County Technical HS	Deptford HS
Price Toyota (DE - Newark)	No reply	jcampbell@priceautogroup.com	New Castle	DE	Read JR HS	William Penn HS	Delcastle Technical HS	Colwyck Jr HS
Newark Toyota World (DE)	No reply	dmckie@newarktoyotaworld.com	New Castle	DE	Newark HS	Christiana HS	Aspira HS	Saint Marks HS
<b>Totals</b>	<b>38</b>							

**COMMUNITY COLLEGE OF PHILADELPHIA**

**New Degree Program Proposal**

Name of Degree Program	Web and Mobile Application Development AAS
Academic Pathway	Science and Technology
Department	Computer Technologies
Faculty Developer(s)	Laurence Liss
Facilitator	Sotiria Koui
Recommended Starting Semester	Fall 2022
<b>Today's Date</b>	February 10, 2022
Abstract	The Web and Mobile Application Development AAS degree provides a focused computer programming alternative to the Computer Science program that directly meets the needs of the job market. The degree provides strong foundations upon which students can build future skills and provides exposure to a number of programming languages and techniques that are being used to produce commercial applications. The program should appeal to students considering “bootcamp” type programs but who need financial aid and the assurances of an accredited program. Two courses are being revised for the Web and Mobile Application Development degree program: CIS 130: Web Design I and CIS 288: Cloud Computing.

**I. Alignment with the College Mission (<http://ccp.edu/about-us/mission-and-goals>)**

The Web and Mobile Application Development degree program aligns with the College’s mission because it enables students “to meet the changing needs of business, industry, and the professions,” specifically the growing area of web development.

**II. Expected Program Participants**

This program is designed to meet the needs of students looking to enter the workforce as a software developer focused on web and mobile applications. Like the Computer Science program, this degree offers a strong focus programming and the production of working software but does not emphasize theory or the underlying mathematics to the same degree. The proposed degree can be seen as an alternative path for students interested in programming and wishing to begin a career immediately after completing the program rather than continuing study at another institution. The degree also provides a career focused pathway for those interested in



programming but lacking the sufficient mathematical background for the Computer Science program. Many programming jobs, particularly those focused on what is referred to as “front-end” web development, which includes the creation and management of web-based user interfaces, require little mathematical knowledge.

### **III. Opportunities and/or Problems that the Proposed Program Addresses**

The Web and Mobile Application Development AAS degree aims to fill a growing demand for web development professionals. According to the U.S. Bureau of Labor Statistics, the demand for web developers is expected to grow 8% over the next decade<sup>1</sup>. The Web and Mobile Application Development degree program provides in-demand job-related skills that are nearly impossible to find outside of a private sector “coding boot camp” and allows current professionals to update their skills at an accredited institution with the full support of financial aid and the affordability of a government supported institution.

While the demand for web developers is expected to increase over the next decade, the demand for computer programmers is expected to decline by 9% over the same period<sup>2</sup>. This may be little more than a transition from one type of development to another and may be a somewhat semantic issue as the field of web development and the field of software development have broad overlap. Regardless, there is a growing need for programmers with specific knowledge of the intricacies of internet-based applications. Few programs at accredited organizations exist and fewer at public colleges. The addition of this program provides an excellent jumping off point for traditional students looking to earn a credential and enter the field as well as for returning students or working professionals looking to change careers or shift to a different role within the programming landscape.

### **IV. Program Structure and Coherence**

Students begin the program with no assumed programming experience and little assumed computer experience. Through coursework they are introduced to the operating system and common business applications while enhancing communication skills. Student progress to basic programming of web sites and learn to make these sites interactive using JavaScript while learning core programming concepts. Alternate operating systems such as Linux are introduced and students learn to navigate and manage applications on these systems before progressing to the study of databases and the integration of databases with web applications. In the last two semesters, students prepare master design and development tasks and then prepare reports and pitch documents to support their visions for new applications and application infrastructure. Scientific reasoning skills and communication skills continue to develop as mobile application

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<sup>1</sup> Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Web Developers and Digital Designers, at <https://www.bls.gov/ooh/computer-and-information-technology/web-developers.htm> (visited June 29, 2021).

<sup>2</sup> Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Computer Programmers, at <https://www.bls.gov/ooh/computer-and-information-technology/computer-programmers.htm> (visited June 28, 2021).

development is introduced and progresses. Students exit the program having developed applications in several different programming languages and having presented design work and concept plans.

The program requires 65 credits to ensure students are exposed to mobile development concepts over two different courses and that students will have a background in both mobile development concepts but also in the use of statically-typed compiled programming languages, which are common in the field. This addition serves to make students more broadly job ready as these additional skills transfer to a number of different languages and environments.

## V. Assessment Plan

<b>Program Learning Outcome</b>	<b>Method(s) of Assessment</b>	<b>Semester and Year Assessed</b>
Evaluate, design, implement, test, and launch web and mobile applications individually and as part of a group.	Labs, quizzes, exams, discussions, programming assignments, projects.	1 <sup>st</sup> semester, 1 <sup>st</sup> year. 2 <sup>nd</sup> semester, 1 <sup>st</sup> year. 1 <sup>st</sup> semester, 2 <sup>nd</sup> year. 2 <sup>nd</sup> semester, 2 <sup>nd</sup> year.
Identify concepts related to remote data APIs (Application Programming Interfaces) and apply them within the context of application development.	Labs, quizzes, exams, discussions, programming assignments, projects.	2 <sup>nd</sup> semester, 1 <sup>st</sup> year. 1 <sup>st</sup> semester, 2 <sup>nd</sup> year. 2 <sup>nd</sup> semester, 2 <sup>nd</sup> year.
Design, develop, and manage databases in support of web and mobile applications.	Labs, quizzes, exams, discussions, programming assignments, projects.	1 <sup>st</sup> semester, 1 <sup>st</sup> year. 1 <sup>st</sup> semester, 2 <sup>nd</sup> year.
Produce user interfaces for web and mobile applications.	Labs, quizzes, exams, discussions, programming assignments, projects.	2 <sup>nd</sup> semester, 1 <sup>st</sup> year. 1 <sup>st</sup> semester, 2 <sup>nd</sup> year.
Identify components of web and mobile applications.	Labs, quizzes, exams, discussions, programming assignments, projects.	2 <sup>nd</sup> semester, 1 <sup>st</sup> year. 1 <sup>st</sup> semester, 2 <sup>nd</sup> year. 2 <sup>nd</sup> semester, 2 <sup>nd</sup> year.
Recognize and describe ethical, legal, and security issues related to web and mobile development.	Quizzes, exams, discussions, assignments, projects.	1 <sup>st</sup> semester, 1 <sup>st</sup> year. 2 <sup>nd</sup> semester, 1 <sup>st</sup> year. 1 <sup>st</sup> semester, 2 <sup>nd</sup> year.

## VI. Effect on Other Programs and Courses

It is difficult to accurately predict the effect the addition of the new degree will have on other programs at the College; however, it would be reasonable to assume that, at least initially, many of the Web and Mobile Application Development program's students will be drawn from the Computer Information Systems—Information Technology (CIS-IT). Students currently at the

College who are pursuing careers as software developers or programmers but who are not enrolled in the Computer Science program likely reside in the CIS-IT degree as there is no other degree that has a programming concentration, and the CIS-IT degree allows broad freedom to choose electives. While it is likely infeasible for full-time students in their second year of the program to switch majors at this point, it is conceivable that some first-year students and new students will choose this degree over the CIS-IT degree.

## **VII. Proposed New Courses and Course Revisions**

Two courses are being revised for the Web and Mobile Application Development degree program.

CIS 130: Web Design I is being revised to reflect broader changes in the role of the internet in society as well as a shift in development practices and to include outcomes related to ethics and fundamental internet network concepts. This change also aligns the Web Development I PC with the degree to ensure credentials are stackable.

CIS 288: Cloud Computing is being revised to remove CIS 204: Fundamentals of Linux and Unix from the list of required prerequisites. This allows for more flexibility in course sequencing. In addition, the Web Technologies Teaching Circle (Taoufik Ennoure, Michael Hackett, Barbara Hearn, Laurence Liss, and Craig Nelson) agree that the necessary Linux command line skills could be taught in the context of the class material and that fundamental programming skills were more important in determining the overall success of students in the class.

## **VIII. Fiscal Implications**

There should be few direct fiscal implications of the new degree. Nearly all the required software for the courses is free/libre and open source. It can be installed on any number of computers (including students' personal machines) at no cost. Apple computers are required for iOS development (used for iPhone and iPad apps) but the existing Mac lab in C3-15 should be sufficient for several years unless the program experiences significant early growth. RealVNC is currently used to provide students with remote access to the lab computers when outside of the college and will continue to be beneficial to students in the future.

Courses within the degree have overlap with the Computer Information Systems—Information Technology and Computer Science degrees and generally will be held in the same classrooms and using the same equipment and configurations.

## **IX. Catalog Page**

# **Web and Mobile Application Development**

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**Description:** The Web and Mobile Application Development degree prepares students to become professional software developers working in web and mobile environments. Students

will progress from fundamental to advanced programming concepts and apply them to design and build web and mobile applications. Emphasis is also placed on the infrastructure of the web and the ability to plan, launch, and manage applications in the real world.

**Program Learning Outcomes:**

Upon successful completion of this program, students will be able to:

- Evaluate, design, implement, test, and launch web and mobile applications individually and as part of a group.
- Identify concepts related to remote data APIs (Application Programming Interfaces) and apply them within the context of application development.
- Design, develop, and manage databases in support of web and mobile applications.
- Produce user interfaces for web and mobile applications.
- Identify components of web and mobile applications.
- Recognize and describe ethical, legal, and security issues related to web and mobile development.

**Program Entry Requirements:** New students are normally required to take the College’s placement test at their time of entry. Also, students who possess business computer application skills may test out of CIS 103: Computer Applications & Concepts. Students who are identified as needing developmental course work must satisfactorily complete the appropriate English and mathematics courses as part of their degree program.

**Program of Study and Graduation Requirements:** A total of 65 credit hours as prescribed must be satisfactorily completed with a grade point average of 2.0 ("C" average).

**X. Course Sequence**

Semester 1

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
SOC 101 - Introduction to Sociology		3 credits	Cultural Analysis and Interpretation
ENGL 101 - English Composition I		3 credits	Writing/Research/Info Lit 1
CIS 103 - Computer Applications & Concepts		3 credits	Technological Competency
CIS 155 - Principles of Operating Systems		3 credits	

Semester 2

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
CIS 114 - JavaScript I		4 credits	
CIS 130 - Web Design I	CIS 103	3 credits	

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
FNMT 118 - Intermediate Algebra or above	<a href="#">FNMT 017</a> or <a href="#">FNMT 019</a> completed or <a href="#">FNMT 118</a> (or higher) placement	3 credits	Quantitative Reasoning
ENGL 102 - The Research Paper	ENGL 101 with a "C" grade or higher	3 credits	Writing/Research/Info Lit 2
CIS 204 - Fundamentals of Linux and Unix	CIS 105 or CIS 155	3 credits	

### Semester 3

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
CIS 205 - Database Management System	CSCI 112, which may be taken concurrently, or CIS 103 or CSCI 118	4 credits	
CIS 244 - Server-Side Web Development	CIS 114 and CIS 205, which may be taken concurrently	4 credits	
CIS 228 - JavaScript II	CIS 114	4 credits	
CIS 230 - Web Design II	CIS 130	3 credits	
CIS 200 - Apple App Development I or CIS 211 - Android App Development I	CIS 106 or CIS 114 or CSCI 111	4 credits	

### Semester 4

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
ENGL 115 - Public Speaking or ENGL 117 - Group and Team Communication	ENGL 101, which may be taken concurrently	3 credits	Oral Communication/ Creative Expression
PHYS 111 - General Physics I or PHYS 105 - Survey of Physics	PHYS 111: <a href="#">MATH 162</a> or <a href="#">MATH 171</a> or <a href="#">MATH 171</a> placement PHYS 105: FNMT 118 (or higher) placement or a passing grade in FNMT 017 (or higher) are required	4 credits	Scientific Reasoning

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
CIS 271 - Information Technology Project Management	CIS 103 and FNMT 118 or higher	3 credits	
CIS 201 - Apple App Development II or CIS 212 - Android App Development II	For CIS 201: CIS 200 For CIS 212: CIS 211	4 credits	
CIS 288 - Cloud Computing	CIS 244	4 credits	

## Minimum Credits Needed to Graduate: 65

**General Education Requirements:** All general education requirements necessary for graduation are met through the courses in the program as indicated above. Students who wish to take courses that differ from the general education courses indicated above must complete a course substitution request form. To access the form, login to the [MyCCP portal](#), and in the **Student** tab, under **Electronic Forms**, click on the **Records and Registration Forms** link, then choose **Request for Course Substitution of Graduation Requirement** link. A [more detailed explanation](#) of the College's general education requirements is also available.

**For More Information, Contact:** The Division of Business and Technology, Room B2-22, 1700 Spring Garden Street, Philadelphia, PA 19130, Telephone (215) 751-8414 or the College Information Center (215) 751-8010.

## XI. Courses and Completion Sequence

The following courses and sequence of courses is designed for the optimal success and completion of the Web and Mobile Software Development degree/certificate. Any alterations should be discussed with your academic advisor.

### Semester 1

Course Number and Name	Credits	Advisory Notes	Course Type
SOC 101 - Introduction to Sociology	3 credits		Fulfills requirement for Cultural Analysis and Interpretation
ENGL 101 - English Composition I	3 credits	Prerequisite for ENGL 102 with a C or better	Fulfills requirement for Writing/Research/Info Lit 1
CIS 103 - Computer Applications & Concepts	3 credits	Prerequisite for CIS 130, CIS 105, and CIS 271	

Course Number and Name	Credits	Advisory Notes	Course Type
		Students who possess business computer application skills may test out of CIS 103 Fulfills requirement for Technological Competency	
CIS 155 - Principles of Operating Systems	3 credits	Prerequisite for CIS 204	Major Course

### Semester 2

Course Number and Name	Credits	Advisory Notes	Course Type
CIS 114 - JavaScript I	4 credits	Prerequisite for CIS 200, CIS 244, and CIS 228	Major Course
CIS 130 - Web Design I	3 credits		Major Course
FNMT 118 - Intermediate Algebra or above	3 credits		Fulfills requirement for Quantitative Reasoning
ENGL 102 - The Research Paper	3 credits		Fulfills requirement for Writing/Research/Info Lit 2
CIS 204 - Fundamentals of Linux and Unix	3 credits		Major Course

### Semester 3

Course Number and Name	Credits	Advisory Notes	Course Type
CIS 205 - Database Management System	4 credits	Prerequisite for CIS 244, which may be taken concurrently	Major Course
CIS 244 - Server-Side Web Development	4 credits	Prerequisite for CIS 288	Major Course
CIS 230 - Web Design II	3 credits		Major Course
CIS 228 - JavaScript II	4 credits		Major Course
CIS 200 - Apple App Development I or CIS 211 - Android App Development I	4 credits	CIS 200 is prerequisite for CIS 201	Major Course

<b>Course Number and Name</b>	<b>Credits</b>	<b>Advisory Notes</b>	<b>Course Type</b>
		CIS 212 is prerequisite for CIS 212	

Semester 4

<b>Course Number and Name</b>	<b>Credits</b>	<b>Advisory Notes</b>	<b>Course Type</b>
ENGL 115 - Public Speaking or ENGL 117 - Group and Team Communication	3 credits		Fulfills requirement for Oral Communication/ Creative Expression
PHYS 111 - General Physics I or PHYS 105 - Survey of Physics	4 credits		Fulfills requirement for Scientific Reasoning
CIS 271 - Information Technology Project Management	3 credits		Major Course
CIS 201 - Apple App Development II or CIS 212 - Android App Development II	4 credits		Major Course
CIS 288 - Cloud Computing	4 credits		Major Course



## XII. Curriculum Map and Micro Map

**Key:** **I**—Introduced                      **R**—Reinforced and opportunity to practice  
**M**—Mastery at exit level              **A**—Assessment evidence collected

Required Courses	Program Learning Outcomes					
	Evaluate, design, implement, test, and launch web and mobile applications individually and as part of a group.	Identify concepts related to remote data APIs (Application Programming Interfaces) and apply them within the context of application development.	Design, develop, and manage databases in support of web and mobile applications.	Produce user interfaces for web and mobile applications.	Identify components of web and mobile applications.	Recognize and describe ethical, legal, and security issues related to web and mobile development.
CIS 103			I, A			I, A
CIS 130	I, A			I, A	I, A	R, A
CIS 114	I, A	I, A		I, A		
CIS 228	M, A	R, A				
CIS 155	I, A				I, A	
CIS 244		M, A	R, A			M, A
CIS 205			M, A			
CIS 204	R, A				R, A	
CIS 200 or CIS 211	M, A			R, A		
CIS 288	M, A				M, A	
CIS 230				M, A		
CIS 271	M, A					

PROGRAM LEARNING OUTCOMES 1-6						
<b>COURSE LEARNING OUTCOMES</b>	PLO 1: Design and code web sites written in HTML and CSS.	PLO 2: Develop and program server-side scripts capable of storing, retrieving, updating, and deleting data that can be controlled via HTML pages used on a standard web browser.	PLO 3: Demonstrate the use of APIs and how to develop them.	PLO 4: Design and develop databases to intelligently store and manage real world data.	PLO 5: Develop real time interactions with web pages by using the JavaScript programming language.	PLO 6: Dynamically retrieve and display content for specific users of a web site.
<b>CIS 130 Web Design I</b>						
1. Identify Web terminologies and protocols and comprehend the importance of the Web as a medium of communication.						
2. Explain and identify fundamental networking and internet concepts.						
3. Identify HTML semantic elements and apply them to structure Web pages.	<b>I</b>					
4. Format and style Web elements using Cascading Style Sheets.						
5. Implement current Web design principles using HTML and CSS to create standards-compliant Web pages.						

PROGRAM LEARNING OUTCOMES 1-6						
<b>COURSE LEARNING OUTCOMES</b>	PLO 1: Design and code web sites written in HTML and CSS.	PLO 2: Develop and program server-side scripts capable of storing, retrieving, updating, and deleting data that can be controlled via HTML pages used on a standard web browser.	PLO 3: Demonstrate the use of APIs and how to develop them.	PLO 4: Design and develop databases to intelligently store and manage real world data.	PLO 5: Develop real time interactions with web pages by using the JavaScript programming language.	PLO 6: Dynamically retrieve and display content for specific users of a web site.
6. Evaluate, validate, and perform accessibility testing for Web pages.	<b>M</b>					
7. Develop Web tables and forms.						
8. Recognize the ethical and legal issues in Web development.						
<b>CIS 114 JavaScript I</b>						
1. Create basic standards-compliant webpages and websites using Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) and incorporate JavaScript functionality into these pages.	<b>R</b>					
2. Describe and implement basic programming concepts including variables, data types,						

	<b>PROGRAM LEARNING OUTCOMES 1-6</b>					
<b>COURSE LEARNING OUTCOMES</b>	PLO 1: Design and code web sites written in HTML and CSS.	PLO 2: Develop and program server-side scripts capable of storing, retrieving, updating, and deleting data that can be controlled via HTML pages used on a standard web browser.	PLO 3: Demonstrate the use of APIs and how to develop them.	PLO 4: Design and develop databases to intelligently store and manage real world data.	PLO 5: Develop real time interactions with web pages by using the JavaScript programming language.	PLO 6: Dynamically retrieve and display content for specific users of a web site.
conditionals, loops, arrays, objects, and functions in the JavaScript language.						
3. Describe and implement JavaScript event handling on HTML elements in order to allow JavaScript code to run in response to user interaction.					<b>I</b>	
4. Acquire data from HTML forms and process it using a JavaScript program.					<b>M</b>	
5. Read and write data in JavaScript Object Notation (JSON) format, retrieve this data via Asynchronous JavaScript and XML (AJAX),			<b>I</b>			

<b>PROGRAM LEARNING OUTCOMES 1-6</b>						
<b>COURSE LEARNING OUTCOMES</b>	PLO 1: Design and code web sites written in HTML and CSS.	PLO 2: Develop and program server-side scripts capable of storing, retrieving, updating, and deleting data that can be controlled via HTML pages used on a standard web browser.	PLO 3: Demonstrate the use of APIs and how to develop them.	PLO 4: Design and develop databases to intelligently store and manage real world data.	PLO 5: Develop real time interactions with web pages by using the JavaScript programming language.	PLO 6: Dynamically retrieve and display content for specific users of a web site.
and update a web page based on this data.						
<b>CIS 205 Introduction to Database Management Systems</b>						
1. Design and Create Conceptual Relational Database Using a professional modeling application				<b>I</b>		
2. Implement Physical Database from a Conceptual Design				<b>M</b>		
3. Work as part of a professional team to design, code, test and debug normalized databases						
4. Correctly use the elements of Relational Algebra retrieving result sets from relational databases						

PROGRAM LEARNING OUTCOMES 1-6						
<b>COURSE LEARNING OUTCOMES</b>	PLO 1: Design and code web sites written in HTML and CSS.	PLO 2: Develop and program server-side scripts capable of storing, retrieving, updating, and deleting data that can be controlled via HTML pages used on a standard web browser.	PLO 3: Demonstrate the use of APIs and how to develop them.	PLO 4: Design and develop databases to intelligently store and manage real world data.	PLO 5: Develop real time interactions with web pages by using the JavaScript programming language.	PLO 6: Dynamically retrieve and display content for specific users of a web site.
5. Create source code and execute SQL statements that are syntactically correct						
6. Demonstrate a knowledge of input and output routines, data types, and data operations						
7. Demonstrate a knowledge of key concepts in Database Theory						
<b>CIS 244 Server-Side Development</b>						
1. Read and write common syntax of the PHP programming language.	<b>R</b>					
2. Demonstrate correct use of PHP conditional statements and control structures.						

	<b>PROGRAM LEARNING OUTCOMES 1-6</b>					
<b>COURSE LEARNING OUTCOMES</b>	PLO 1: Design and code web sites written in HTML and CSS.	PLO 2: Develop and program server-side scripts capable of storing, retrieving, updating, and deleting data that can be controlled via HTML pages used on a standard web browser.	PLO 3: Demonstrate the use of APIs and how to develop them.	PLO 4: Design and develop databases to intelligently store and manage real world data.	PLO 5: Develop real time interactions with web pages by using the JavaScript programming language.	PLO 6: Dynamically retrieve and display content for specific users of a web site.
3. Use PHP data structures to store and manipulate data.						
4. Demonstrate how to pass data from the browser to the server.		<b>I</b>				<b>I</b>
5. Integrate a PHP program with data from a database.		<b>M</b>	<b>M</b>	<b>R</b>		
6. Provide an authentication system to a web application.						<b>M</b>
7. Develop a skeptical attitude towards data sent from the browser and understand how to defend against malicious users.						
8. Work with PHP libraries and development tools.						

**PROGRAM LEARNING OUTCOMES 7-11**

<b>COURSE LEARNING OUTCOMES</b>	PLO 7: Create user interfaces and tools that are well designed and are accessible to users.	PLO 8: Demonstrate core programming concepts, such as the use of variables, loops, arrays, objects, conditionals, and functions.	PLO 9: Create dynamically updated pages via AJAX.	PLO 10: Explain and identify fundamental networking and internet concepts.	PLO 11: Recognize and describe ethical and legal issues related to software development.
<b>CIS0 130 Web Design I</b>					
1. Identify Web terminologies and protocols and comprehend the importance of the Web as a medium of communication.				<b>I</b>	<b>I</b>
2. Explain and identify fundamental networking and internet concepts.				<b>M</b>	
3. Identify HTML semantic elements and apply them to structure Web pages.	<b>I</b>				
4. Format and style Web elements using Cascading Style Sheets.					
5. Implement current Web design principles using HTML and CSS to create standards-compliant Web pages.					
6. Evaluate, validate, and perform accessibility testing for Web pages.					
7. Develop Web tables and forms.	<b>M</b>				
8. Recognize the ethical and legal issues in Web development.					<b>M</b>



PROGRAM LEARNING OUTCOMES 7-11					
<b>COURSE LEARNING OUTCOMES</b>	PLO 7: Create user interfaces and tools that are well designed and are accessible to users.	PLO 8: Demonstrate core programming concepts, such as the use of variables, loops, arrays, objects, conditionals, and functions.	PLO 9: Create dynamically updated pages via AJAX.	PLO 10: Explain and identify fundamental networking and internet concepts.	PLO 11: Recognize and describe ethical and legal issues related to software development.
<b>CIS 114 JavaScript I</b>					
1. Create basic standards-compliant webpages and websites using Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) and incorporate JavaScript functionality into these pages.					
2. Describe and implement basic programming concepts including variables, data types, conditionals, loops, arrays, objects, and functions in the JavaScript language.		<b>I</b>			
3. Describe and implement JavaScript event handling on HTML elements in order to allow JavaScript code to run in response to user interaction.					
4. Acquire data from HTML forms and process it using a JavaScript program.	<b>R</b>				

<b>PROGRAM LEARNING OUTCOMES 7-11</b>					
<b>COURSE LEARNING OUTCOMES</b>	PLO 7: Create user interfaces and tools that are well designed and are accessible to users.	PLO 8: Demonstrate core programming concepts, such as the use of variables, loops, arrays, objects, conditionals, and functions.	PLO 9: Create dynamically updated pages via AJAX.	PLO 10: Explain and identify fundamental networking and internet concepts.	PLO 11: Recognize and describe ethical and legal issues related to software development.
5. Read and write data in JavaScript Object Notation (JSON) format, retrieve this data via Asynchronous JavaScript and XML (AJAX), and update a web page based on this data.			<b>M</b>		
<b>CIS 205 Introduction to Database Management Systems</b>					
1. Design and Create Conceptual Relational Database Using a professional modeling application					
2. Implement Physical Database from a Conceptual Design					
3. Work as part of a professional team to design, code, test and debug normalized databases					
4. Correctly use the elements of Relational Algebra retrieving result sets from relational databases					

<b>PROGRAM LEARNING OUTCOMES 7-11</b>					
<b>COURSE LEARNING OUTCOMES</b>	PLO 7: Create user interfaces and tools that are well designed and are accessible to users.	PLO 8: Demonstrate core programming concepts, such as the use of variables, loops, arrays, objects, conditionals, and functions.	PLO 9: Create dynamically updated pages via AJAX.	PLO 10: Explain and identify fundamental networking and internet concepts.	PLO 11: Recognize and describe ethical and legal issues related to software development.
5. Create source code and execute SQL statements that are syntactically correct					
6. Demonstrate a knowledge of input and output routines, data types, and data operations					
7. Demonstrate a knowledge of key concepts in Database Theory					
<b>CIS 244 Server-Side Development</b>					
1. Read and write common syntax of the PHP programming language.					
2. Demonstrate correct use of PHP conditional statements and control structures.		<b>R</b>			
3. Use PHP data structures to store and manipulate data.		<b>M</b>			
4. Demonstrate how to pass data from the browser to the server.	<b>R</b>				
5. Integrate a PHP program with data from a database.			<b>R</b>		

**PROGRAM LEARNING OUTCOMES 7-11**

	<b>PROGRAM LEARNING OUTCOMES 7-11</b>				
<b>COURSE LEARNING OUTCOMES</b>	PLO 7: Create user interfaces and tools that are well designed and are accessible to users.	PLO 8: Demonstrate core programming concepts, such as the use of variables, loops, arrays, objects, conditionals, and functions.	PLO 9: Create dynamically updated pages via AJAX.	PLO 10: Explain and identify fundamental networking and internet concepts.	PLO 11: Recognize and describe ethical and legal issues related to software development.
6. Provide an authentication system to a web application.					
7. Develop a skeptical attitude towards data sent from the browser and understand how to defend against malicious users.					
8. Work with PHP libraries and development tools.					