KINGSBOROUGH COMMUNITY COLLEGE
The City University of New York

CURRICULUM TRANSMITTAL COVER PAGE

Department: Art **Date:** 3/27/20

Title Of Course/Degree/Concentration/Certificate: ART 2700 - Coding for Designers

Change(s) Initiated: (Please check)

- ☐ Closing of Degree
- ☐ Closing of Certificate
- ☐ New Certificate Proposal
- ☐ New Degree Proposal
- ☒ New Course
- ☐ New 82 Course (Pilot Course)
- ☐ Deletion of Course(s)
- ☐ Change in Degree or Certificate
- ☐ Change in Degree: Adding Concentration
- ☐ Change in Degree: Deleting Concentration
- ☐ Change in Prerequisite, Corequisite, and/or Pre/Co-requisite
- ☐ Change in Course Designation
- ☐ Change in Course Description
- ☐ Change in Course Title, Number, Credits and/or Hours
- ☐ Change in Academic Policy
- ☐ Pathways Submission:
  - ☐ Life and Physical Science
  - ☐ Math and Quantitative Reasoning
  - ☐ A. World Cultures and Global Issues
  - ☐ B. U.S. Experience in its Diversity
  - ☐ C. Creative Expression
  - ☐ D. Individual and Society
  - ☐ E. Scientific World
- ☐ Change in Program Learning Outcomes
- ☐ Other (please describe): _____

PLEASE ATTACH MATERIAL TO ILLUSTRATE AND EXPLAIN ALL CHANGES

DEPARTMENTAL ACTION

Action by Department and/or Departmental Committee, if required:

Date Approved: _____ **Signature, Committee Chairperson:** _____

If submitted Curriculum Action affects another Department, signature of the affected Department(s) is required:

Date Approved: _____ **Signature, Department Chairperson:** _____

Date Approved: _____ **Signature, Department Chairperson:** _____

I have reviewed the attached material/proposal

Signature, Department Chairperson: _____

Revised/Augl.2018/AK

Kingsborough Community College

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New Course Proposal Form

1. Department, Course Number, and Title (Speak with Academic Scheduling for assignment of a new course number):

   ART 2700- Coding for Designers

2. Does this course meet a General Education/CUNY Common Core Pathways Category? **N/A**

   - ☐ Life and Physical Science
   - ☐ Math and Quantitative Reasoning
   - ☐ A. World Cultures and Global Issues
   - ☐ B. U.S. Experience in its Diversity
   - ☐ C. Creative Expression
   - ☐ D. Individual and Society
   - ☐ E. Scientific World

   If **YES**, complete and submit with this proposal a CUNY Common Core Pathways Submission Form.

3. Describe how this course transfers (required for A.S. Degree course). If A.A.S. Degree course and does not transfer, justify role of course, e.g. describe other learning objectives met.

   This course originated from a US Department of Labor funded initiative of CUNY Central's Office of Continuing Education and Workforce Programs entitled "CUNY TechWorks". At Kingsborough, CUNY TechWorks partnered with our Graphic Design faculty (Art Department) to create a User Experience (UX) Design Program. Data gathered through the grant have confirmed (1) a robust market exists for these type of technical skills and (2) these skills directly align with our Graphic Design and Illustration degree, allowing our students to be even more marketable within this field.

This course will be one of three courses that will comprise a new concentration in UX Design in the Graphic Design and Illustration program and will result in an A.S. degree.

4. College Catalog description of course:

   This will be a hands-on course in which students will create coded prototypes with an interactive and responsive interface. In doing so, students will learn and apply technical skills such as HTML/CSS, jQuery, PHP, and a CMS such as WordPress, as well as incorporate Interaction Design and UX Design theories.

5. Credits and Hours Based on *College Credits Assigned for Instructional Hours** (Please check **ONE** appropriate box below based on credits):

1-credit:	□ 1 hour lecture □ 2 hours lab/field/gym
2-credits:	□ 2 hours lecture □ 1 hour lecture, 2 hours lab/field □ 4 hours lab/field
3-credits:	□ 3 hours lecture ✓ 2 hours lecture, 2 hours lab/field □ 1 hour lecture, 4 hours lab/field □ 6 hours lab/field
4-credits:	□ 4 hours lecture □ 3 hours lecture, 2 hours lab/field □ 2 hours lecture, 4 hours lab/field □ 1 hour lecture, 6 hours lab/field □ 8 hours lab/field
More than 4-credits:	□ Number of credits: ____ (explain mix lecture/lab below) ___ Lecture ____Lab Explanation:_____

***Hours are hours per week in a typical 12-week semester**

6. Number of Equated Credits in Item #5 ___**N/A**___ (For Developmental Courses ONLY)

7. Course Prerequisites, Corequisites, and Selected Populations (If NONE, please indicate "NONE" for each):

   A. Prerequisite(s): **Art 55 and Math Proficient or Department Permission**

   B. Corequisite(s): **NONE**

   C. Pre-/Co-requisite(s): **NONE**

   D. Open ONLY to selected Students (specify population): **NONE**

8. Brief rationale to justify proposed course, include:

   A. Enrollment Summary if previously offered as an 82XX-Pilot Course (include Complete 4-digit 82 course number): **N/A**
   B. Projected Enrollment: **15**
   C. Suggested Class Limits: **20**

   D. Frequency course is likely to be offered: **Fall and Spring**

   E. Role of course in Department's Curriculum and College's Mission: **This course will be one of four courses that will comprise the new UX Design concentration under the A.S. in Graphic Design and Illustration.**

9. List course(s), if any, to be withdrawn when course is adopted (Note: this is NOT the same as deleting a course): **N/A**

10. If course is an internship, independent Study, or the like, provide an explanation as to how the student will earn the credits awarded. The credits awarded should be consistent with the student efforts required in a traditional classroom setting. **N/A**

11. Proposed textbook(s) and/or other required instructional materials(s):

    USB storage device ($50)

    Responsive Web Design, by Ethan Marcotte

    Mobile-First Design, Chapters 3 & 4 - 2011 by Luke Wroblewski

    Type on Screen: A Critical Guide for Designers, Writers, Developers, and Students (Design Briefs) Paperback – May 15, 2014 by Ellen Lupton (Author), Maryland Institute College of Art (Author)

12. Is the course REQUIRED for a Major, Concentration, or Certificate? **YES**

    If **YES**, – Submit a separate Curriculum Transmittal Cover Page indicating a "Change in Degree or Certificate" as well as a Proposal that MUST include a rationale for inclusion of the course within the curriculum and the following additional information:

    A. "Current" Degree with all proposed deletions (strikeouts) and additions (bolded) clearly indicated.

    B. "Proposed" Degree, which displays the degree as it will appear in the *College Catalog*

    For a copy of the most up-to-date degree/certificate requirements contact Amanda Kalin, ext. 4611, Amanda.Kalin@kbcc.cuny.edu

    The Following NYSED Guidelines must be adhered to for **ALL** Degree Programs:

    45 credits of Liberal Arts Course work for an Associate of Arts Degree (A.A.)

    30 credits of Liberal Arts Course work for an Associate of Science Degree (A.S.)

    20 credits of Liberal Arts Course work for an Applied Associate of Science (A.A.S.)

13. Explain what students will know and be able to do upon completion of course:

    At the completion of this course, students will:

    - Master the basics of semantic and accessible HTML 5 and CSS 3
    - Apply the basics of CSS related to layout, fonts
    - Develop semantic, accessible and responsive layouts for multi-device
    - Develop some basic interface interactions with jQuery (such as click events)
    - Know the Front-end terminology
    - Know basics of the Back-End terminology pertaining to using a CMS
    - Update a theme in WordPress
    - Create a template for a theme in WordPress
    - Communicate with a Development team about the layout and handle hands-offs

14. Methods of Teaching – e.g. lectures, laboratories, and other assignments for students, including any of the following: demonstrations, group work, website or email interactions and/or assignments, practice in application skills, etc.:

    A class made up of 2 hours of lecture and 2 hours of lab is ideal because the objective of this course is that every student should be able to conceive a functional HTML/CSS prototype and to bring a Visual Design to life.

    The overall experience of a digital product is impacted at every step of its lifecycle. Front-end Development is one of them. Usually, User Experience / Human-Centered Design students finish their curriculum on designing a high-fidelity prototype, which contains, or not Interaction Design animations. This approach has proved to create gaps in the field pertaining to handoffs and collaboration with Development teams. This course aims to address this by letting students experiment Front-End Development firsthand. It will help them grasp how it impact the overall experience, as well as the challenges that Development teams face on a daily basis. They will conduct a usability testing with their coded prototype. What results is a greater empathy and communication for both the Development team and the users.

    The 2 hours of lecture and 2 hours of lab will serve to provide students with the specific responsive and accessible design knowledge and technical implementation skills.

15. Assignments to students:

    Students will develop a prototype incrementally during in-class assignment and workshops: design of a semantic HTML page, addition of a CSS stylesheet, then design of a more complex flexible layout with color and type, creation and implementation of a responsive typographic grid, addition of Media Queries to make the layout fully responsive, addition of animations and/or transitions in CSS, addition of basic jQuery functions, and translation of this layout into a fully editable theme in WordPress.

    Students will work individually on homework to develop a fully functional prototype, based on either a prior validated Visual Design or on a project chosen by the instructor.

16. Describe method of evaluating learning specified in #14 – include percentage breakdown for grading. If a Developmental Course, include how the next level course is determined as well as Next Level Placement.

On-going Discussion, Critique, Participation	20%
Homework #1	10%
Homework #2	10%
Homework #3	10%
Homework #4	10%
Homework #5	10%
Final Presentation:	30%
Total:	100%

17. Topical Course Outline for the 12-week semester. This should be specific regarding topics covered, learning activities and assignments:

Week Number	Weekly Two Hour Lecture	Weekly Two Hour Lab
Week 1	Introduction and overview • Class overview • Quick introduction to the history of HTML 5, CSS 3, and browsers • Introduction to HTML 5, its structure and its history • Importance of writing semantic HTML • Review of W3C and WCAG 2.1 Best Practices • Introduction to Aria roles • In-Class Assignments *OUTCOMES:* *Introductory knowledge of HTML, Accessibility, and best practices*	**HTML Basics** – Each students must create a resume in HTML
Week 2	Introduction to CSS: • Syntax • Inheritance, properties, attributes • DRY and BEM Methodology • Classes and IDs • Parents, children, ancestors • Selectors (:first-child, :last-child, :nth-of-child) • Colors in CSS (#Hex, RGB, RGBA) • In-Class Assignments *Homework 1:* *Start creating a semantic and accessible HTML layout of their project, along with some basic CSS.* *OUTCOMES:* *Introductory knowledge of CSS and best practices*	**CSS Basics** – Each student must style the previous resume with a CSS stylesheet.

Week 3	In-depth CSS: • Box Model • CSS Reset • Display: block, inline, inline-block • Positioning: static, fixed, sticky, relative, absolute • Introduction to Flexbox and CSS Grids • In-Class Assignments *Homework 2:* *Add CSS styles to your layout* *Homework 1 DUE* *OUTCOMES:* *Further knowledge of CSS and introductory knowledge of Flexbox and CSS Grids.*	**Blog Layout** – Each student will create an simple to more complex article layout in HTML and CSS
Week 4	Responsive Basics: • Introduction to Viewport Units • Introduction to CSS Variables and calc() function • Responsive Typographic Grids • Implementing Bringhurst rule in CSS • Introduction to @font-face and Google Fonts API • In-Class Assignments *Homework 3:* *Implement a font system to your layout along with a responsive typographic grid and implement the Bringhurst rule.* *Homework 2 DUE* *OUTCOMES:* *Knowledge of Responsive Principles*	**Design with Type, with Accessibility and Multi Device in mind** – Each student will have to implement a font system to their previous article assignment, implement the Bringhurst rule with a responsive typographic grid.

Week 5	Responsive Web Design: • Media queries and breakpoints • Mobile-first theory • Introduction to the browser Inspector Tools • Testing media queries • Responsive images and <picture> element • In-Class Assignments *Homework 4:* *Implement media queries to your layout for wide desktop, laptop, tablet, and mobile size. Take orientation into consideration.* *Homework 3 DUE* *OUTCOMES:* *Proficiency in Responsive Web Design*	**Responsive Web Design** – In groups, students will review and critique existing responsive websites. And develop responsive solutions based on their findings. Each student will start experiencing and implementing Media Queries with the previous article in-class assignment.
Week 6	CSS Advanced: • Introduction to CSS Generated Content • Introduction to CSS Animations and Transitions • Flex, Grids, and animations inside Responsive Web Design • Mobile Design patterns • In-Class Assignments *OUTCOMES:* *Intermediate knowledge of Interaction Design applied to CSS, Flexbox and Responsive Grids, Mobile Design best practices*	**Interaction Design applied to CSS** – Each student will add :hover transitions and animation to a complex layout.
Week 7	jQuery Basics: • Introduction to jQuery • Objects and event listeners • Responsive Menu and basics functions for design • Testing the website against W3C validators • In-Class Assignments *Homework 4 DUE*	**jQuery basics** – Each student will have to generate a responsive hamburger menu with animations, and update a carousel of image / slider.

	OUTCOMES: *Introductory knowledge of jQuery*	
Week 8	Introduction to CMS: • Introduction to PHP and databases • Introduction to WordPress and its architecture • Setting up WordPress for using a child theme • Interest of using plugins *OUTCOMES:* *Introductory knowledge of PHP and WordPress*	**Wordpress** – Each student will reverse-engineer a child theme and update some of its layout.
Week 9	WordPress: • Understanding the loops • Understanding how functions.php works • Creating a theme from scratch *Homework 5:* *Translate your project into a theme in WordPress.* *OUTCOMES:* *Intermediate knowledge of WordPress*	**WordPress**– Each student will have to update the WordPress loop to retrieve different type of sample articles to display them on a page, and change some functions in the functions.php file.
Week 10	Workshop: • WordPress Continued • Final Workshop for final projects. • Testing on a live server and talk about issues on phone / tablets • Feedback *OUTCOMES:* *Proficiency in Adobe XD*	**Final Project Workshop** – Students will work on their final project in class, and can garner feedback from their peers and Instructor

Week 11	Putting all together: • Usability testing on desktop, tablet, and mobile size • Writing list of recommendations • Implement updates *Homework 5 DUE* *OUTCOMES:* *Demonstrate the ability to bring a concept to life through Front-End Development.*	**No lab** as the class will be treated more like a workshop, where students garner feedback from their peers and Instructor
Week 12	Final Presentations *OUTCOMES:* *Demonstrate the ability to bring a concept to life through Front-End Development.*	**No lab** as full class time will be used for Final project presentations.

18. Selected Bibliography and Source materials:

    Type on Screen: A Critical Guide for Designers, Writers, Developers, and Students (Design Briefs) Paperback, Chapters 1-2 – May 15, 2014 by Ellen Lupton (Author), Maryland Institute College of Art (Author)

    HTML5 for Web Designers, by Jeremy Keith and Rachel Andrew

    CSS: The Definitive Guide: Visual Presentation for the Web 4th Edition, by Eric Meyer

    CSS3 for Web Designers, by Dan Cederholm

    Responsive Web Design, by Ethan Marcotte

    Responsive Design: Patterns and Principles

    Mobile-First Design, Chapters 3 & 4 - 2011 by Luke Wroblewski

    The New CSS Layout, by Rachel Andrew

    Responsible Responsive, by Scott Jehl