

KINGSBOROUGH COMMUNITY COLLEGE
The City University of New York

CURRICULUM TRANSMITTAL COVER PAGE

Department: _____ Date: _____

Title Of Course/Degree/Concentration/Certificate: _____

Change(s) Initiated: (Please check)

- | | |
|---|---|
| <input type="checkbox"/> Closing of Degree | <input type="checkbox"/> Change in Degree or Certificate |
| <input type="checkbox"/> Closing of Certificate | <input type="checkbox"/> Change in Degree: Adding Concentration |
| <input type="checkbox"/> New Certificate Proposal | <input type="checkbox"/> Change in Degree: Deleting Concentration |
| <input type="checkbox"/> New Degree Proposal | <input type="checkbox"/> Change in Prerequisite, Corequisite, and/or Pre/Co-requisite |
| <input type="checkbox"/> New Course | <input type="checkbox"/> Change in Course Designation |
| <input type="checkbox"/> New 82 Course (Pilot Course) | <input type="checkbox"/> Change in Course Description |
| <input type="checkbox"/> Deletion of Course(s) | <input type="checkbox"/> Change in Course Title, Number, Credits and/or Hours |
| | <input type="checkbox"/> Change in Academic Policy |
| | <input type="checkbox"/> Pathways Submission: |
| | <input type="checkbox"/> Life and Physical Science |
| | <input type="checkbox"/> Math and Quantitative Reasoning |
| | <input type="checkbox"/> A. World Cultures and Global Issues |
| | <input type="checkbox"/> B. U.S. Experience in its Diversity |
| | <input type="checkbox"/> C. Creative Expression |
| | <input type="checkbox"/> D. Individual and Society |
| | <input type="checkbox"/> 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: 9/5/23 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: 

TO: Fall 2023 Curriculum Committee

FROM: Prof. Yarmish, Chair, Department of Mathematics & Computer Science

DATE: 08/21/2023

RE: New Course: CIS 100: Digital Society

The Department of Mathematics & Computer Science proposes a new course, as follows:

ADD: CIS 100: Digital Society

Rationale for the addition of this course:

This course will fill a void in the department's offerings in that it will constitute a comprehensive discussion and consideration of the impact of today's digital technologies on people's lives. Included are considerations of both privacy issues and issues of security.

Our current Computer Science and CIS offerings focus on the technical, while CIS 100 will focus on the impact of technologies on societies (including global society) and individuals, including both positive and negative impacts; some technical material will be introduced as needed, for clarity of conceptual and practical understanding.



New Course Proposal Form*

*This form is **NOT** intended for Internships or Field Work

1. Complete the requested course information in the table below. Indicate “**NONE**” where applicable.

*For Assignment of New Course Number, contact **Academic Scheduling**.

Department:	Mathematics and Computer Science
Course Designation/Prefix:	CIS
*Course Number:	100
Course Title:	Digital Society
Course Description: (Note: Description should include language similar to Course Learning Outcomes.)	A consideration of how digital technologies impact individuals’ daily lives, social movements & civic activities. How the design and use of algorithms can be influenced by the culture and biases of those designing & using the technologies. Impacts on human rights; privacy; ethical concerns; and security. This course will help students achieve excellence in their studies and future endeavors by providing foundational knowledge that is critically important to understand digital influences on modern society. Facilitation and strengthening of critical-thinking skills, listening & analytical skills, and the application of the scientific method to exploring social phenomena.
Prerequisite(s):	None.
Corequisite(s):	None.
Pre-/Co-requisite(s):	None.
Open ONLY to Select students (Specify Population):	
Frequency course is to be offered (Select All that Apply)	<input checked="" type="checkbox"/> Fall <input checked="" type="checkbox"/> Winter <input checked="" type="checkbox"/> Spring <input checked="" type="checkbox"/> Summer
Suggested Class Limit:	25
Indicate if a special space, such as a lab, and/or special equipment will be required:	Computer Lab with all standard college lab software at each station and Internet/Web accessible on all.

2. Credits and Hours based on MSCHE Guidelines for *College Credits Assigned for Instructional Hours* -*Hours are based on hours per week in a typical 12-week semester (Please check **ONE** box based on credits):

1-credit: <input type="checkbox"/> 1 hour lecture

	<input type="checkbox"/> 2 hours lab/field/gym
2-credits:	<input type="checkbox"/> 2 hours lecture <input type="checkbox"/> 1 hour lecture, 2 hours lab/field <input type="checkbox"/> 4 hours lab/field
3-credits:	<input type="checkbox"/> 3 hours lecture <input checked="" type="checkbox"/> 2 hours lecture, 2 hours lab/field <input type="checkbox"/> 1 hour lecture, 4 hours lab/field <input type="checkbox"/> 6 hours lab/field
4-credits:	<input type="checkbox"/> 4 hours lecture <input type="checkbox"/> 3 hours lecture, 2 hours lab/field <input type="checkbox"/> 2 hours lecture, 4 hours lab/field <input type="checkbox"/> 1 hour lecture, 6 hours lab/field <input type="checkbox"/> 8 hours lab/field
More than 4-credits:	<input type="checkbox"/> Number of credits: ____ (explain mix lecture/lab below) ____ Lecture ____ Lab Explanation: _____

3. **Where** does this course fit? Select from the following:

<input type="checkbox"/> Degree Program(s)/Certificate(s)*	<p>List Degree Program(s)/Certificate(s):</p> 1. 2.
<input checked="" type="checkbox"/> General Education/Pathways	<p>Select ONE of the following:</p> <p>Life and Physical Science (LPS)</p> <input type="checkbox"/> Math and Quantitative Reasoning (MQR) <input type="checkbox"/> World Cultures and Global Issues (Group A) <input type="checkbox"/> U.S. Experience in its Diversity (Group B) <input type="checkbox"/> Creative Expression (Group C) <input checked="" type="checkbox"/> Individual and Society (Group D) <input type="checkbox"/> Scientific World (Group E)
<input type="checkbox"/> 82XX Pilot/Experimental Course	<p>If proposed as a “real” course, where will this course fit? Select from the following:</p> <p>List Degree Program(s)/Certificate(s):</p> 1. 2. <p>Select ONE of the following:</p> <input type="checkbox"/> Life and Physical Science (LPS)

	<input type="checkbox"/> Math and Quantitative Reasoning (MQR) <input type="checkbox"/> World Cultures and Global Issues (Group A) <input type="checkbox"/> U.S. Experience in its Diversity (Group B) <input type="checkbox"/> Creative Expression (Group C) <input type="checkbox"/> Individual and Society (Group D) <input type="checkbox"/> Scientific World (Group E)
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***If Degree Program/Certificate is Selected:**

- Include an updated **Curricular** Map (Program Learning Outcomes) for each Degree Program/Certificate listed above.
- Include an updated Degree Map (semester-by-semester course sequence) for each Degree Program/Certificate listed above. For Degree Map template, 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 (General Education) course work for an Associate of Arts Degree (AA)

30 credits of Liberal Arts (General Education) course work for an Associate of Science Degree (AS)

20 credits of Liberal Arts (General Education) course work for an Applied Associate of Science (AAS)

Additional Separate Submissions Required:

1. Curriculum Transmittal Cover Page indicating a “Change in Degree or Certificate”
2. Memo with rationale for inclusion of the course within the curriculum
3. “Current” Degree with all proposed deletions (strikeouts) and additions (bolded) clearly indicated
4. “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

If General Education/Pathways is Selected:

- [Please refer to NYSED Guidelines for courses that are considered Liberal Arts \(General Education\).](#)
- Pilot/Experimental/82XX courses CANNOT be submitted for Pathways until they are submitted as a “**real**” course.

Additional Separate Submissions Required:

1. Curriculum Transmittal Cover Page indicating BOTH “New Course” and “Pathways”
2. CUNY Common Core Pathways Submission Form

4. **List the Course Learning Outcomes** – Course Learning Outcomes are measurable/demonstrable, containing “**action verbs**” (Blooms Taxonomy). If proposed to PATHWAYS, the Course Learning Outcomes should significantly align with the Pathways Learning Outcomes (refer to the Pathways Common Core Submission Form for Pathways Learning Outcomes). If proposed for a Degree program, the course should align with the Program Learning Outcomes (PLOs). **REMINDER** – Course Learning Outcomes are consistent for **ALL sections** of the same course and **MUST** be included on the syllabus.

Course Learning Outcomes
1. <u>Develop general awareness of computers' impact on their lives:</u> Students will gain an appreciation of the outsize impact of technology and its uses on every aspect of societal interaction, both generally and specifically. Students will understand and be able to engage with hardware, software, applications, networking and security issues.
2. <u>Apply technological tools to their own endeavors:</u> Students will, by the conclusion of this course, be able to demonstrate and apply computer-based resources to their own specific fields of endeavor.
3. <u>Appreciate the role of computers and other tools of technology in society:</u> Students will gain an understanding of the ways in which information technology has contributed to society (positives, as well as cautionary awareness), ways in which these technologies can and have been applied, and expected future impacts. Informed discourse regarding the intersection of technological change and the social, economic, business and philosophical transformation of the world around as affected by technologies of the past decade. Consideration of potential and definitive implications for the future.
4. <u>Civic Engagement:</u> Capstone project: As part of a capstone to this course, students will be guided and engaged in exploration of Civic Engagement opportunities in the student's own area(s) of interest. The project will be chosen with an eye to application and use of technological methodologies and tools to facilitate and assist the process.

5. **Assessment of Course Learning Outcomes:** The Course Learning Outcomes are measurable/demonstrable through the below listed sample assignments/activities. Include percentage breakdown for grading. **REMINDER** - Assessment of Course Learning Outcomes are based on a **Common Syllabus** – to allow for **any** qualified instructor to teach the course.

Course Learning Outcome	Percentage of Grade	Measurement of Learning Outcome (Artifact/Assignment/Activity)
1. Demonstrate general technological literacy and awareness	30%	Course exams (two class exams, one final exam)
2. Apply technological and computer-based tools to their own fields and/or endeavors.	15%	Laboratory Exercises and Assignments
3. Appreciate and understand the role and impact of computers in society, including understanding of matters affecting privacy, security and societal engagement.	30%	Course exams (two class exams, one final exam)
4. Civic Engagement	25%	Essay and/or programming project

6. **Who** is expected to enroll in this course? Please provide details for the student population(s), degree program(s)/certificate(s), and applicable concentration(s), this course is expected to include.

Kingsborough Community College students will benefit from enrollment in this course, personally, professionally, and academically. Computer-related tools, concepts and resources can be applied in a variety of disciplines and endeavors. All enrolled students in this course will gain a broad and diverse understanding of the computer-based technologies ubiquitous in society today, along with an understanding of their advantages, disadvantages and sometimes-outsized impact.

7. Explain **why** this course is a necessary addition to the curriculum. **REMINDER** – Explain the course’s role within the selected Pathways Group or Degree program – How does this course meet the Program Learning Outcomes (PLOs)? Was the course a recommendation from a recent Annual Program Review (APR), Advisory Board, Accrediting Body, etc.? How might this course help students seeking to transfer to a 4-yr college or transition into a career after KCC?

A primary goal of this course is to help students achieve excellence in their studies and future endeavors by providing all students with foundational knowledge that is critically important in modern society. The computer-dependent tools, knowledge, and resources about which they will be made aware will facilitate the strengthening of critical-thinking skills, listening and analytical skills and the application of the scientific method to exploring phenomena around them.

The course also provides broad curricular exposure, as students learn how digital tools have application not only to their own areas of interest, but also to other areas of study at the college. A wide range of disciplines use computers and one of the goals of this course is to show students how that is so.

Finally, this course is designed to help maximize flexibility for potential movement of students between CUNY campuses. The topics impact various disciplines in multiple areas of study (including interdisciplinary study) and present general foundational knowledge of computer science and its applications that are universally applicable.

For student majors in computer-related disciplines in particular, this course will provide a perspective which – due to time constraint -- is often not provided in the technical courses that constitute the requirements of the major.

CIS 100 will be a Civic Engagement course.

8. Upon transfer, does this course meet a specified requirement for a degree at a 4-year institution? If so, please include the institution and degree program. It is recommended you review your current [Articulation Agreements](#).

This course design and content meet the Pathways Flexible Core: Individual & Society requirement for all undergraduate CUNY colleges.

9. Will adding the course potentially **conflict** with other courses – in content or subject matter – offered in either your Department or in *another* Department? If it will, please explain **how** and indicate **why** the course is still necessary.

CIS 100 will not conflict with other offerings.

10. Proposed textbook(s) and/or other required instructional material(s), including open educational resources (OER)– Please include any supplemental/recommended materials/texts to allow for **any** qualified instructor to teach the course:

Primary (Required)Text:

Understanding the Digital World : What You Need to Know about Computers, the Internet, Privacy, and Security. Second Edition. KERNIGHAN, Brian W., Princeton University Press, 2021.

E-book ISBN 978-0-691-21896-0 or

Softcover ISBN 978-0-691-21910-3 or

Hardcover ISBN 978-0-691-21909-7

OER Resources for text at <https://press.princeton.edu/books/ebook/9780691218960/understanding-the-digital-world>

11. **Attach a Common Syllabus** that includes the Topical Course Outline for the 12-week semester. This should be specific and explicit regarding the topics covered and should contain the detailed sample assignments/activities being used to measure the Course Learning Outcomes. **REMINDER** – be mindful to focus on the Course Learning Outcomes, Course Content, and Assessment.

Common Syllabus Topical Course Outline (general)

week	CONTENT	LEARNING OUTCOME	ASSESSMENT
1	General overview of computing and the digital landscape. Real world practical examples of digital influence and impacts.	Understand in a wide-ranging way what are the digital tools available today, and how today's digital devices are – and are not -- useful.	Exam questions on general concepts and examples.
2	Fundamental elements of digital literacy: The Hardware, The Software, Networking, & Programming in general.	Gain fundamental digital concept literacy (beyond general common knowledge).	Exam questions covering topics studied.
3	When to get the computer or other digital device to respond to natural language vs. when to “write a program”.	Demystifying computer programming.	Classroom interaction and discussion.
4	Types of Software: off-the-shelf (and their uses) vs. custom developed/coded.	Learn what's out there and how it can be used.	Exam questions covering topics studied.
5	Overview (history & concepts) of the internet, the web, smartphones, & other and various computer devices/technologies.	Demystifying what the internet and web are really all about, behind the scenes.	Exam questions covering topics studied.
6	Issues of security and privacy with computer systems & networks.	Computer security; All aspects overview.	Exam questions covering topics studied.
7	Issues of privacy and ethics with computer systems & networks.	Computer ethics; All aspects overview.	Classroom interaction and discussion.
8	Artificial Intelligence: history and current state of affairs. Natural Language Processing , machine learning, Chatbots.	A.I. demystified and explained for all.	Exam questions covering topics studied.
9	Data and Information Science overview. Data Mining, Databases and I.T.	How to deal with masses of data, in a useful way.	Classroom interaction and discussion.
10	Impact of digitization on society examined.	Survey of the many and varied ways that computers and other	Classroom interaction and discussion.

		digital tools change things.	
11	Civic Engagement using computers and other digital tools in various and diverse endeavors.	Examples of ways in which digitization helps with C.E.	Preparatory work and guidance on C.E. project development.
12	Student project work (essay and/or application) on digitization as applied to C.E.	Students describe lessons learned & applied.	Production, completion and evaluation of project.

Common Syllabus Course Content (day by day)

week	CONTENT PROGRESSION	Resources & Activities (course textbook references unless otherwise specified)
1 Lab Activities	Day 1: General overview of computing and the digital landscape. Days 2, 3, 4: Real world practical examples of digital influence and impacts.	I. Kernighan, “Understanding the Digital World”: Chapter 1 II. Instructor provided handouts (topical)
2 Lab Activities	Fundamental elements of computer literacy: Day 5: The Hardware, Day 6: The Software, Day 7: Computer Networking, Day 8: What Computer Programming really is.	Assignments and activities based on content found in chapters 2, 3, 5, 8
3 Lab Activities	Days 9, 10, 11, 12: Giving computers instructions in natural language (e.g. Google query) vs. actual programming in programming languages; an overview (with examples) of what that all means.	Assignments and activities based on content found in chapters 4, 6, 7
4	Days 13, 14: Off-the-shelf software and its uses, with examples. Days 15,16: Custom developed programs.	Hands on Lab exercises using applications. Intro to the world of programming (no prior experience presumed)
5 Lab Activities	Day 17: history of computers Day 18: history of the internet & the web, other technologies Days 19,20: key developments of the 20 th and 21 st century in computer technology	Assignments and activities based on content of chapters 9, 10
6 Lab Activities	Days 21, 22, 23, 24: Issues of security and privacy with computer systems & networks.	Assignments and activities based on content of chapter 13
7	Days 25, 26, 27, 28: Issues of privacy and ethics with computer systems & networks.	Instructor provided handouts (topical)

8	Days 29, 30: Artificial Intelligence history Day 31: A.I. current state of affairs. Day 32: Natural Language Processing, machine learning, Chatbots.	I. Chapter 12 II. Instructor provided handouts (topical)
9	Days 33, 34: Data and Information Science overview. Days 35, 36: Data Mining, Databases and I.T.	Assignments and activities based on content of chapter 11
10	Days 37, 38, 39, 40: Impact of digitization on society and individuals examined, with case studies.	Instructor provided handouts (topical) and guidance.
11 Lab Activities	Days 41, 42, 43, 44: Civic Engagement using digital tools in a wide & diverse array of endeavors.	Assignments and activities based on content of chapter 14
12	Days 45, 46, 47, 48: Student project work (essay and/or application) on digitization applied to C.E.	Student-Instructor lab work and guidance.

12. Selected Bibliography and Source materials:

Code: The Hidden Language of Computer Hardware and Software 2nd Edition, by Charles Petzold , Pearson Education 2023.

Understanding the Digital World: What You Need to Know about Computers, the Internet, Privacy, and Security, Second Edition by Brian W. Kernighan , Princeton University Press 2021.

Computers and Society: Modern Perspectives, by Ronald M. Baecker, Oxford U. Press (2019)

Computers and Society: Computing for Good, by Lisa C. Kaczmarczyk, Chapman & Hall/CRC Textbooks in Computing (2016)

Cyberpsychology: The Study of Individuals, Society and Digital Technologies, by Monica T. Whitty and Garry Young, BPS Textbooks in Psychology (2016)

Electronic Voting: 7th International Joint Conference, E-Vote-ID 2022, Bregenz, Austria, October 4–7, 2022, Proceedings , by Robert Krimmer, Melanie Volkamer, et al. (Sep 2, 2022)

Bit by Bit: Social Research in the Digital Age, by Matthew J. Salganik, Princeton U. Press, (2019)

Frenemies: How Social Media Polarizes America, by Jaime E. Settle, Cambridge U. Press (2022)

Digital Skills for Nursing Studies and Practice, by Cristina M. Vasilica, Emma Gillaspay, et al., Learning Matters (2023)

Essential Computational Thinking: Computer Science from Scratch by Ricky J. Sethi, Cognella 2019

Fluency With Information Technology ,by Lawrence Snyder. Pearson.

Balanced Introduction to Computer Science, A by David Reed, Pearson.

Living in a digital world: Demystifying technology ,by Mark C Baker, Pearson 2021.

Computer Science: An Interdisciplinary Approach, Robert Sedgewick Kevin Wayne Addison-Wesley Professional 2016

Computer Science: An Overview, Glenn Brookshear Dennis Brylow, Pearson 2021

Digital Art: Its Arts and Science, Yue-Ling Wong, Pearson 2009

GO! All in One: Computer Concepts and Applications,by Gaskin Vargas Geoghan & Graviett , Pearson 2017

Visualizing Technology, Debra Geoghan, Pearson 2018

Exploring Getting Started with Computing Concepts, by Poatsy & Grauer, Pearson 2017

CUNY Common Core Course Submission Form

Instructions: All courses submitted for the Common Core must be liberal arts courses. Courses submitted to the Course Review Committee may be submitted for only one area of the Common Core and must be 3 credits. Colleges may submit courses to the Course Review Committee before or after they receive college approval. STEM waiver courses do not need to be approved by the Course Review Committee. This form should not be used for STEM waiver courses.

College	Kingsborough Community College of the City University of New York
Course Prefix and Number (e.g., ANTH 101, if number not assigned, enter XXX)	CIS 100
Course Title	Digital Society
Department(s)	Mathematics & Computer Science
Discipline	Computer Information Systems
Credits	3 credits
Contact Hours	(2 hours lecture, 2 hours lab)
Pre-requisites (if none, enter N/A)	N/A
Co-requisites (if none, enter N/A)	N/A
Catalogue Description	A consideration of how digital technologies impact individuals' daily lives, social movements & civic activities. How the design and use of algorithms can be influenced by the culture and biases of those designing & using the technologies. Impacts on human rights; privacy; ethical concerns; and security. This course will help students achieve excellence in their studies and future endeavors by providing foundational knowledge that is critically important to understand digital influences on modern society. Facilitation and strengthening of critical-thinking skills, listening & analytical skills, and the application of the scientific method to exploring social phenomena.
Special Features (e.g., linked courses)	Civic engagement
Sample Syllabus	Syllabus must be included with submission; 5 pages max recommended

Indicate the status of this course being nominated:

current course
 revision of current course
 a new course being proposed

CUNY COMMON CORE Location

Please check below the area of the Common Core for which the course is being submitted. (Select only one.)

Required Core	Flexible Core
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<input type="checkbox"/> English Composition <input type="checkbox"/> Mathematical and Quantitative Reasoning <input type="checkbox"/> Life and Physical Sciences	<input type="checkbox"/> World Cultures and Global Issues (A) <input type="checkbox"/> US Experience in its Diversity (B) <input type="checkbox"/> Creative Expression (C) <input checked="" type="checkbox"/> Individual and Society (D) <input type="checkbox"/> Scientific World (E)
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Learning Outcomes

In the left column explain the course assignments and activities that will address the learning outcomes in the right column.

I. Required Core (12 credits)

A. English Composition: Six credits

A course in this area must meet all the learning outcomes in the right column. A student will:

	<ul style="list-style-type: none"> • Read and listen critically and analytically, including identifying an argument's major assumptions and assertions and evaluating its supporting evidence.
	<ul style="list-style-type: none"> • Write clearly and coherently in varied, academic formats (such as formal essays, research papers, and reports) using standard English and appropriate technology to critique and improve one's own and others' texts.
	<ul style="list-style-type: none"> • Demonstrate research skills using appropriate technology, including gathering, evaluating, and synthesizing primary and secondary sources.
	<ul style="list-style-type: none"> • Support a thesis with well-reasoned arguments, and communicate persuasively across a variety of contexts, purposes, audiences, and media.
	<ul style="list-style-type: none"> • Formulate original ideas and relate them to the ideas of others by employing the conventions of ethical attribution and citation.

B. Mathematical and Quantitative Reasoning: Three credits

A course in this area must meet all the learning outcomes in the right column. A student will:

	<ul style="list-style-type: none"> • Interpret and draw appropriate inferences from quantitative representations, such as formulas, graphs, or tables.
	<ul style="list-style-type: none"> • Use algebraic, numerical, graphical, or statistical methods to draw accurate conclusions and solve mathematical problems.

	<ul style="list-style-type: none">• Represent quantitative problems expressed in natural language in a suitable mathematical format.
	<ul style="list-style-type: none">• Effectively communicate quantitative analysis or solutions to mathematical problems in written or oral form.
	<ul style="list-style-type: none">• Evaluate solutions to problems for reasonableness using a variety of means, including informed estimation.
	<ul style="list-style-type: none">• Apply mathematical methods to problems in other fields of study.

C. Life and Physical Sciences: Three credits

A course in this area must meet all the learning outcomes in the right column. A student will:

	<ul style="list-style-type: none">• Identify and apply the fundamental concepts and methods of a life or physical science.
	<ul style="list-style-type: none">• Apply the scientific method to explore natural phenomena, including hypothesis development, observation, experimentation, measurement, data analysis, and data presentation.
	<ul style="list-style-type: none">• Use the tools of a scientific discipline to carry out collaborative laboratory investigations.
	<ul style="list-style-type: none">• Gather, analyze, and interpret data and present it in an effective written laboratory or fieldwork report.
	<ul style="list-style-type: none">• Identify and apply research ethics and unbiased assessment in gathering and reporting scientific data.

II. Flexible Core (18 credits)

Six three-credit liberal arts and sciences courses, with at least one course from each of the following five areas and no more than two courses in any discipline or interdisciplinary field.

A. World Cultures and Global Issues

A Flexible Core course must meet the three learning outcomes in the right column.

	<ul style="list-style-type: none">• Gather, interpret, and assess information from a variety of sources and points of view.
	<ul style="list-style-type: none">• Evaluate evidence and arguments critically or analytically.
	<ul style="list-style-type: none">• Produce well-reasoned written or oral arguments using evidence to support conclusions.

A course in this area (II.A) must meet at least three of the additional learning outcomes in the right column. A student will:

	<ul style="list-style-type: none">• Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring world cultures or global issues, including, but not limited to, anthropology, communications, cultural studies, economics, ethnic studies, foreign languages (building upon previous language acquisition), geography, history, political science, sociology, and world literature.
	<ul style="list-style-type: none">• Analyze culture, globalization, or global cultural diversity, and describe an event or process from more than one point of view.
	<ul style="list-style-type: none">• Analyze the historical development of one or more non-U.S. societies.

	<ul style="list-style-type: none">• Analyze the significance of one or more major movements that have shaped the world's societies.
	<ul style="list-style-type: none">• Analyze and discuss the role that race, ethnicity, class, gender, language, sexual orientation, belief, or other forms of social differentiation play in world cultures or societies.
	<ul style="list-style-type: none">• Speak, read, and write a language other than English, and use that language to respond to cultures other than one's own.

B. U.S. Experience in its Diversity

A Flexible Core course must meet the three learning outcomes in the right column.

- | | |
|--|---|
| | <ul style="list-style-type: none">• Gather, interpret, and assess information from a variety of sources and points of view. |
| | <ul style="list-style-type: none">• Evaluate evidence and arguments critically or analytically. |
| | <ul style="list-style-type: none">• Produce well-reasoned written or oral arguments using evidence to support conclusions. |

A course in this area (II.B) must meet at least three of the additional learning outcomes in the right column. A student will:

- | | |
|--|--|
| | <ul style="list-style-type: none">• Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring the U.S. experience in its diversity, including, but not limited to, anthropology, communications, cultural studies, economics, history, political science, psychology, public affairs, sociology, and U.S. literature. |
| | <ul style="list-style-type: none">• Analyze and explain one or more major themes of U.S. history from more than one informed perspective. |
| | <ul style="list-style-type: none">• Evaluate how indigenous populations, slavery, or immigration have shaped the development of the United States. |
| | <ul style="list-style-type: none">• Explain and evaluate the role of the United States in international relations. |
| | <ul style="list-style-type: none">• Identify and differentiate among the legislative, judicial, and executive branches of government and analyze their influence on the development of U.S. democracy. |
| | <ul style="list-style-type: none">• Analyze and discuss common institutions or patterns of life in contemporary U.S. society and how they influence, or are influenced by, race, ethnicity, class, gender, sexual orientation, belief, or other forms of social differentiation. |

C. Creative Expression

A Flexible Core course must meet the three learning outcomes in the right column.

- | | |
|--|---|
| | <ul style="list-style-type: none">• Gather, interpret, and assess information from a variety of sources and points of view. |
| | <ul style="list-style-type: none">• Evaluate evidence and arguments critically or analytically. |
| | <ul style="list-style-type: none">• Produce well-reasoned written or oral arguments using evidence to support conclusions. |

A course in this area (II.C) must meet at least three of the additional learning outcomes in the right column. A student will:

	<ul style="list-style-type: none">• Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring creative expression, including, but not limited to, arts, communications, creative writing, media arts, music, and theater.
	<ul style="list-style-type: none">• Analyze how arts from diverse cultures of the past serve as a foundation for those of the present, and describe the significance of works of art in the societies that created them.
	<ul style="list-style-type: none">• Articulate how meaning is created in the arts or communications and how experience is interpreted and conveyed.
	<ul style="list-style-type: none">• Demonstrate knowledge of the skills involved in the creative process.
	<ul style="list-style-type: none">• Use appropriate technologies to conduct research and to communicate.

D. Individual and Society

A Flexible Core course must meet the three learning outcomes in the right column.

Course assignments and activities survey and study myriad ways in which modern digitization and current societal uses of information and technology directly affect both the individual, as well as local and global societal constructs, in profound and impactful ways. Fundamental concepts are taught and their applications are studied. Enrolled students will:

- 1. Investigate and collect information on (for example) the ways in which social media have been said to have influenced recent elections.**
- 2. Study the impact of Chat GPT and A.I.: (a) in general, (b) in the classroom; (c) in other venues facilitated by educational institutions and (d) in governmental institutions which are tasked with such safety nets as Medicaid, Food stamps and other supportive venues.**

- Gather, interpret, and assess information from a variety of sources and points of view.

Course material and content include investigations, scrutiny, and analyses of the various ways digital manifestations have already affected our society (for better or worse), and are expected in the future to expand that effect on individuals.

Topics covered include:

- 1. Critical analysis and assessment of the pros and cons of modern electronic voting machines/systems vs. “old-fashioned” paper -ballot-based systems.**
- 2. Discussion and examination of the reasoning and logic in the debate over what age is appropriate to introduce children to various internet, Web, and Social Media influences.**

- Evaluate evidence and arguments critically or analytically.

Written or oral student capstone presentations are required, and are an integral part of the Civic Engagement component of this class.

Projects must demonstrate acceptable competence levels achieved by (1) demonstrating knowledge acquired and citing evidence using primary source

- Produce well-reasoned written or oral arguments using evidence to support conclusions.

<p>material and (2) utilizing methodologies covered in the course content to support conclusions.</p> <p>Students will choose topics that are of concern or interest to them in their daily lives. Examples are: (1) Pros or cons of particular forms of social media, (2) Concerns or support for the use of Artificial Intelligence in particular settings or for specific uses, (3) The societal divide on the reliability of electronic voting, (4) Critical issues related to on-line privacy and security as well as a host of other topics.</p> <p>The class discussion will guide the student as to critical reading and analysis of source material, enabling engagement in intelligent and meaningful discussion and debate.</p>	
<p>A course in this area (II.D) <u>must meet at least three of the additional learning outcomes</u> in the right column. A student will:</p>	
	<ul style="list-style-type: none"> • Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring the relationship between the individual and society, including, but not limited to, anthropology, communications, cultural studies, history, journalism, philosophy, political science, psychology, public affairs, religion, and sociology.
	<ul style="list-style-type: none"> • Examine how an individual's place in society affects experiences, values, or choices.
<p>In week 7, specific examples and case studies will explore and elucidate concerns with artificial Intelligence, machine learning models, intellectual property questions, privacy issues, and issues of accessibility.</p> <p>Assignment: If you, as a student, (1) conducted research which led to the emergence of a new, efficacious medication and (2) the research was made possible by AI</p> <p>Then: Who is the owner of this new intellectual property? Since its discovery would not have been possible without the college-provided software, does it belong to the college? If the AI is also in the public domain, do results belong to “humanity”? Or – since the development was your idea, does it</p>	<ul style="list-style-type: none"> • Articulate and assess ethical views and their underlying premises.

<p>belong to you? Discuss.</p>	
<p>In week 9, specific topics explored include questions of ethics related to sharing data, granting access to data, levels of protection of data and information, and related concerns. Assignment: Assume a scenario in which an employer is queried regarding a former employee (“X”) who is applying for a new job. The new prospective employer asks whether X is honest (he is not) and requests access to X’s former company file. Should this access be granted? Are there perhaps particular circumstances under which the granting of access would be ethical? Perhaps necessary? What boundaries should there be (if any) on the sharing of personal data? Discuss.</p>	<ul style="list-style-type: none"> • Articulate ethical uses of data and other information resources to respond to problems and questions.
<p>CIS 100 directly addresses practical real world (local, national, and global) impacts and the effects of digital technology on individuals and on broader society. These include (but are not limited to) week 8 discussions of A.I. and its impacts, week 9 discussions of data mining and its implications, and week 10 broad coverage of “Impact of computers on society examined, with case studies”. Students will discuss and consider how the sharing of personal data on such online for a as Meta and X have affected their own lives and/or those of close relatives or friends. In what ways would their lives be different if those venues were to suddenly cease to exist? Would changes be positive? Negative? A mixture thereof?</p>	<ul style="list-style-type: none"> • Identify and engage with local, national, or global trends or ideologies, and analyze their impact on individual or collective decision-making.
<p>E. Scientific World</p> <p>A Flexible Core course <u>must meet the three learning outcomes</u> in the right column.</p>	
	<ul style="list-style-type: none"> • Gather, interpret, and assess information from a variety of sources and points of view.
	<ul style="list-style-type: none"> • Evaluate evidence and arguments critically or analytically.
	<ul style="list-style-type: none"> • Produce well-reasoned written or oral arguments using evidence to support conclusions.
<p>A course in this area (II.E) <u>must meet at least three of the additional learning outcomes</u> in the right column. A student will:</p>	

	<ul style="list-style-type: none"> • Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring the scientific world, including, but not limited to: computer science, history of science, life and physical sciences, linguistics, logic, mathematics, psychology, statistics, and technology-related studies.
	<ul style="list-style-type: none"> • Demonstrate how tools of science, mathematics, technology, or formal analysis can be used to analyze problems and develop solutions.
	<ul style="list-style-type: none"> • Articulate and evaluate the empirical evidence supporting a scientific or formal theory.
	<ul style="list-style-type: none"> • Articulate and evaluate the impact of technologies and scientific discoveries on the contemporary world, such as issues of personal privacy, security, or ethical responsibilities.
	<ul style="list-style-type: none"> • Understand the scientific principles underlying matters of policy or public concern in which science plays a role.

Revision: 2023-08-21 Philip Listowsky

Syllabus

1.

Department:	Mathematics and Computer Science
Course Designation/Prefix:	CIS
*Course Number:	100
Course Title:	Digital Society
Course Description: (Note: Description should include language similar to Course Learning Outcomes.)	A consideration of how digital technologies impact individuals' daily lives, social movements & civic activities. How the design and use of algorithms can be influenced by the culture and biases of those designing & using the technologies. Impacts on human rights; privacy; ethical concerns; and security. This course will help students achieve excellence in their studies and future endeavors by providing foundational knowledge that is critically important to understand digital influences on modern society. Facilitation and strengthening of critical-thinking skills, listening & analytical skills, and the application of the scientific method to exploring social phenomena.
Prerequisite(s):	None.
Corequisite(s):	None.
Pre-/Co-requisite(s):	None.
Open ONLY to Select students (Specify Population):	
Frequency course is to be offered (Select All that Apply)	<input checked="" type="checkbox"/> Fall <input checked="" type="checkbox"/> Winter <input checked="" type="checkbox"/> Spring <input checked="" type="checkbox"/> Summer
Suggested Class Limit:	25
Indicate if a special space, such as a lab, and/or special equipment will be required:	Computer Lab with all standard college lab software at each station and Internet/Web accessible on all.

2. Credits and Hours based on MSCHE Guidelines for *College Credits Assigned for Instructional Hours* -*Hours are based on hours per week in a typical 12-week semester :

3-credits:	<input type="checkbox"/> 3 hours lecture <input checked="" type="checkbox"/> 2 hours lecture, 2 hours lab/field <input type="checkbox"/> 1 hour lecture, 4 hours lab/field <input type="checkbox"/> 6 hours lab/field
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3. **Where** does this course fit? Select from the following:

<input checked="" type="checkbox"/> General Education/Pathways	<p>Select ONE of the following:</p> <p>Life and Physical Science (LPS)</p> <input type="checkbox"/> Math and Quantitative Reasoning (MQR) <input type="checkbox"/> World Cultures and Global Issues (Group A) <input type="checkbox"/> U.S. Experience in its Diversity (Group B) <input type="checkbox"/> Creative Expression (Group C) <input checked="" type="checkbox"/> Individual and Society (Group D) <input type="checkbox"/> Scientific World (Group E)
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4. **List the Course Learning Outcomes** – Course Learning Outcomes are measurable/demonstrable, containing “**action verbs**” (Blooms Taxonomy).

Course Learning Outcomes
1. <u>Develop general awareness of computers’ impact on their lives</u> : Students will gain an appreciation of the outsize impact of technology and its uses on every aspect of societal interaction, both generally and specifically. Students will understand and be able to engage with hardware, software, applications, networking and security issues.
2. <u>Apply technological tools to their own endeavors</u> : Students will, by the conclusion of this course, be able to demonstrate and apply computer-based resources to their own specific fields of endeavor.
3. <u>Appreciate the role of computers and other tools of technology in society</u> : Students will gain an understanding of the ways in which information technology has contributed to society (positives, as well as cautionary awareness), ways in which these technologies can and have been applied, and expected future impacts. Informed discourse regarding the intersection of technological change and the social, economic, business and philosophical transformation of the world around as affected by technologies of the past decade. Consideration of potential and definitive implications for the future.
4. <u>Civic Engagement</u> : Capstone project: As part of a capstone to this course, students will be guided and engaged in exploration of Civic Engagement opportunities in the student’s own area(s) of interest. The project will be chosen with an eye to application and use of technological methodologies and tools to facilitate and assist the process.

5. **Assessment of Course Learning Outcomes**: The Course Learning Outcomes are measurable/demonstrable through the below listed sample assignments/activities. Include percentage breakdown for grading. **REMINDER** - Assessment of Course Learning Outcomes are based on a **Common Syllabus** – to allow for **any** qualified instructor to teach the course.

Course Learning Outcome	Percentage of Grade	Measurement of Learning Outcome (Artifact/Assignment/Activity)
1. Demonstrate general technological literacy and awareness	30%	Course exams (two class exams, one final exam)
2. Apply technological and computer-based tools to their own fields and/or endeavors.	15%	Laboratory Exercises and Assignments

3. Appreciate and understand the role and impact of computers in society, including understanding of matters affecting privacy, security and societal engagement.	30%	Course exams (two class exams, one final exam)
4. Civic Engagement	25%	Essay and/or programming project

6. **Who** is expected to enroll in this course? Please provide details for the student population(s), degree program(s)/certificate(s), and applicable concentration(s), this course is expected to include.

Kingsborough Community College students will benefit from enrollment in this course, personally, professionally, and academically. Computer-related tools, concepts and resources can be applied in a variety of disciplines and endeavors. All enrolled students in this course will gain a broad and diverse understanding of the computer-based technologies ubiquitous in society today, along with an understanding of their advantages, disadvantages and sometimes-outsized impact.

7. Explain **why** this course is a necessary addition to the curriculum. **REMINDER** – Explain the course’s role within the selected Pathways Group or Degree program – How does this course meet the Program Learning Outcomes (PLOs)? Was the course a recommendation from a recent Annual Program Review (APR), Advisory Board, Accrediting Body, etc.? How might this course help students seeking to transfer to a 4-yr college or transition into a career after KCC?

A primary goal of this course is to help students achieve excellence in their studies and future endeavors by providing all students with foundational knowledge that is critically important in modern society. The computer-dependent tools, knowledge, and resources about which they will be made aware will facilitate the strengthening of critical-thinking skills, listening and analytical skills and the application of the scientific method to exploring phenomena around them.

The course also provides broad curricular exposure, as students learn how digital tools have application not only to their own areas of interest, but also to other areas of study at the college. A wide range of disciplines use computers and one of the goals of this course is to show students how that is so.

Finally, this course is designed to help maximize flexibility for potential movement of students between CUNY campuses. The topics impact various disciplines in multiple areas of study (including interdisciplinary study) and present general foundational knowledge of computer science and its applications that are universally applicable.

For student majors in computer-related disciplines in particular, this course will provide a perspective which – due to time constraint -- is often not provided in the technical courses that constitute the requirements of the major.

CIS 100 will be a Civic Engagement course.

8. Upon transfer, does this course meet a specified requirement for a degree at a 4-year institution? If so, please include the institution and degree program. It is recommended you review your current [Articulation Agreements](#).

This course design and content meet the Pathways Flexible Core: Individual & Society requirement for all undergraduate CUNY colleges.

9. Will adding the course potentially **conflict** with other courses – in content or subject matter – offered in either your Department or in *another* Department? If it will, please explain **how** and indicate **why** the course is still necessary.

CIS 100 will not conflict with other offerings.

10. Proposed textbook(s) and/or other required instructional material(s), including open educational resources (OER)– Please include any supplemental/recommended materials/texts to allow for **any** qualified instructor to teach the course:

Primary (Required)Text:

Understanding the Digital World : What You Need to Know about Computers, the Internet, Privacy, and Security. Second Edition. KERNIGHAN, Brian W., Princeton University Press, 2021.

E-book ISBN 978-0-691-21896-0 or

Softcover ISBN 978-0-691-21910-3 or

Hardcover ISBN 978-0-691-21909-7

OER Resources for text at <https://press.princeton.edu/books/ebook/9780691218960/understanding-the-digital-world>

11. Common Syllabus Topical Course Outline (general)

week	CONTENT	LEARNING OUTCOME	ASSESSMENT
1	General overview of computing and the digital landscape. Real world practical examples of digital influence and impacts.	Understand in a wide-ranging way what are the digital tools available today, and how today's digital devices are – and are not -- useful.	Exam questions on general concepts and examples.
2	Fundamental elements of digital literacy: The Hardware, The Software, Networking, & Programming in general.	Gain fundamental digital concept literacy (beyond general common knowledge).	Exam questions covering topics studied.
3	When to get the computer or other digital device to respond to natural language vs. when to “write a program”.	Demystifying computer programming.	Classroom interaction and discussion.
4	Types of Software: off-the-shelf (and their uses) vs. custom developed/coded.	Learn what's out there and how it can be used.	Exam questions covering topics studied.
5	Overview (history & concepts) of the internet, the web, smartphones, & other and various computer devices/technologies.	Demystifying what the internet and web are really all about, behind the scenes.	Exam questions covering topics studied.
6	Issues of security and privacy with computer systems & networks.	Computer security; All aspects overview.	Exam questions covering topics studied.
7	Issues of privacy and ethics with computer systems & networks.	Computer ethics; All aspects overview.	Classroom interaction and discussion.
8	Artificial Intelligence: history and current state of affairs. Natural Language Processing , machine learning, Chatbots.	A.I. demystified and explained for all.	Exam questions covering topics studied.
9	Data and Information Science overview. Data Mining, Databases and I.T.	How to deal with masses of data, in a useful way.	Classroom interaction and discussion.
10	Impact of digitization on society examined.	Survey of the many and varied ways that computers and other	Classroom interaction and discussion.

		digital tools change things.	
11	Civic Engagement using computers and other digital tools in various and diverse endeavors.	Examples of ways in which digitization helps with C.E.	Preparatory work and guidance on C.E. project development.
12	Student project work (essay and/or application) on digitization as applied to C.E.	Students describe lessons learned & applied.	Production, completion and evaluation of project.

Common Syllabus Course Content (day by day)

week	CONTENT PROGRESSION	Resources & Activities (course textbook references unless otherwise specified)
1 Lab Activities	Day 1: General overview of computing and the digital landscape. Days 2, 3, 4: Real world practical examples of digital influence and impacts.	I. Kernighan, “Understanding the Digital World”: Chapter 1 II. Instructor provided handouts (topical)
2 Lab Activities	Fundamental elements of computer literacy: Day 5: The Hardware, Day 6: The Software, Day 7: Computer Networking, Day 8: What Computer Programming really is.	Assignments and activities based on content found in chapters 2, 3, 5, 8
3 Lab Activities	Days 9, 10, 11, 12: Giving computers instructions in natural language (e.g. Google query) vs. actual programming in programming languages; an overview (with examples) of what that all means.	Assignments and activities based on content found in chapters 4, 6, 7
4	Days 13, 14: Off-the-shelf software and its uses, with examples. Days 15,16: Custom developed programs.	Hands on Lab exercises using applications. Intro to the world of programming (no prior experience presumed)
5 Lab Activities	Day 17: history of computers Day 18: history of the internet & the web, other technologies Days 19,20: key developments of the 20 th and 21 st century in computer technology	Assignments and activities based on content of chapters 9, 10
6 Lab Activities	Days 21, 22, 23, 24: Issues of security and privacy with computer systems & networks.	Assignments and activities based on content of chapter 13
7	Days 25, 26, 27, 28: Issues of privacy and ethics with computer systems & networks.	Instructor provided handouts (topical)
8	Days 29, 30: Artificial Intelligence history	I. Chapter 12

	Day 31: A.I. current state of affairs. Day 32: Natural Language Processing, machine learning, Chatbots.	II. Instructor provided handouts (topical)
9	Days 33, 34: Data and Information Science overview. Days 35, 36: Data Mining, Databases and I.T.	Assignments and activities based on content of chapter 11
10	Days 37, 38, 39, 40: Impact of digitization on society and individuals examined, with case studies.	Instructor provided handouts (topical) and guidance.
11 Lab Activities	Days 41, 42, 43, 44: Civic Engagement using digital tools in a wide & diverse array of endeavors.	Assignments and activities based on content of chapter 14
12	Days 45, 46, 47, 48: Student project work (essay and/or application) on digitization applied to C.E.	Student-Instructor lab work and guidance.

12. Selected Bibliography and Source materials:

Code: The Hidden Language of Computer Hardware and Software 2nd Edition, by Charles Petzold , Pearson Education 2023.

Understanding the Digital World: What You Need to Know about Computers, the Internet, Privacy, and Security, Second Edition by Brian W. Kernighan , Princeton University Press 2021.

Computers and Society: Modern Perspectives, by Ronald M. Baecker, Oxford U. Press (2019)

Computers and Society: Computing for Good, by Lisa C. Kaczmarczyk, Chapman & Hall/CRC Textbooks in Computing (2016)

Cyberpsychology: The Study of Individuals, Society and Digital Technologies, by Monica T. Whitty and Garry Young, BPS Textbooks in Psychology (2016)

Electronic Voting: 7th International Joint Conference, E-Vote-ID 2022, Bregenz, Austria, October 4–7, 2022, Proceedings , by Robert Krimmer, Melanie Volkamer, et al. (Sep 2, 2022)

Bit by Bit: Social Research in the Digital Age, by Matthew J. Salganik, Princeton U. Press, (2019)

Frenemies: How Social Media Polarizes America, by Jaime E. Settle, Cambridge U. Press (2022)

Digital Skills for Nursing Studies and Practice, by Cristina M. Vasilica, Emma Gillaspay, et al., Learning Matters (2023)

Essential Computational Thinking: Computer Science from Scratch by Ricky J. Sethi, Cognella 2019

Fluency With Information Technology ,by Lawrence Snyder. Pearson.

Balanced Introduction to Computer Science, A by David Reed, Pearson.

Living in a digital world: Demystifying technology ,by Mark C Baker, Pearson 2021.

Computer Science: An Interdisciplinary Approach, Robert Sedgewick Kevin Wayne Addison-Wesley Professional 2016

Computer Science: An Overview, Glenn Brookshear Dennis Brylow, Pearson 2021

Digital Art: Its Arts and Science, Yue-Ling Wong, Pearson 2009

GO! All in One: Computer Concepts and Applications,by Gaskin Vargas Geoghan & Graviett , Pearson 2017

Visualizing Technology, Debra Geoghan, Pearson 2018

Exploring Getting Started with Computing Concepts, by Poatsy & Grauer, Pearson 2017

Request for Civic Engagement (CE) Credit

Name _____ Date: _____

Department / Office: _____

Course Number and Name: _____

1. Civic Engagement Domain and how it is fulfilled

Referring to the Civic Engagement Rubric, choose at least one (1) CE domain and learning outcome(s), and describe the specific assignment(s) that will be used to address the outcomes.

Civic Engagement Domain (select at least one domain)	Working Definition	Course Embedded Learning Outcomes (syllabus designation)	Assignment/Assessment Activities
<input type="checkbox"/> Political Knowledge	Fundamental understanding of the structures and processes by which laws and policies are created	<input type="checkbox"/> Demonstrates understanding of how the process, principles, and structure of governments and political institutions affect individuals in society. <input type="checkbox"/> Examines the importance of key historical struggles and social movements that sought/seek to encourage change.	May be met by multiple measures. How does this assignment/activity address the Political Knowledge domain? How does it contribute to the overall mission of Civic Engagement and the required reflective essay?

<input type="checkbox"/> Civic Knowledge	<p>Understanding of the diverse forces that shape political systems and civic life</p>	<input type="checkbox"/> Connects knowledge from one's own academic study/field/discipline to civic engagement <input type="checkbox"/> Analyze and discuss the role that race, ethnicity, class, gender, language, sexual orientation, belief or other forms of social differentiation play in world culture or societies	<p>May be met by multiple measures. How does this assignment/activity address the Civic Knowledge domain? How does it contribute to the overall mission of Civic Engagement and the required reflective essay?</p>
<input type="checkbox"/> Social Responsibility	<p>Framework of obligations and actions by individuals or organizations in the interest of working towards an equitable society</p>	<input type="checkbox"/> Recognizes that different attitudes and beliefs are as valuable as one's own.	<p>May be met by multiple measures. How does this assignment/activity address the Social Responsibility domain? How does it contribute to the overall mission of Civic Engagement and the required reflective essay?</p>

Syllabus

1.

Department:	Mathematics and Computer Science
Course Designation/Prefix:	CIS
*Course Number:	100
Course Title:	Digital Society
Course Description: (Note: Description should include language similar to Course Learning Outcomes.)	A consideration of how digital technologies impact individuals' daily lives, social movements & civic activities. How the design and use of algorithms can be influenced by the culture and biases of those designing & using the technologies. Impacts on human rights; privacy; ethical concerns; and security. This course will help students achieve excellence in their studies and future endeavors by providing foundational knowledge that is critically important to understand digital influences on modern society. Facilitation and strengthening of critical-thinking skills, listening & analytical skills, and the application of the scientific method to exploring social phenomena.
Prerequisite(s):	None.
Corequisite(s):	None.
Pre-/Co-requisite(s):	None.
Open ONLY to Select students (Specify Population):	
Frequency course is to be offered (Select All that Apply)	<input checked="" type="checkbox"/> Fall <input checked="" type="checkbox"/> Winter <input checked="" type="checkbox"/> Spring <input checked="" type="checkbox"/> Summer
Suggested Class Limit:	25
Indicate if a special space, such as a lab, and/or special equipment will be required:	Computer Lab with all standard college lab software at each station and Internet/Web accessible on all.

2. Credits and Hours based on MSCHE Guidelines for *College Credits Assigned for Instructional Hours* -*Hours are based on hours per week in a typical 12-week semester :

3-credits: 	<input type="checkbox"/> 3 hours lecture <input checked="" type="checkbox"/> 2 hours lecture, 2 hours lab/field <input type="checkbox"/> 1 hour lecture, 4 hours lab/field <input type="checkbox"/> 6 hours lab/field
---------------------------	--

3. **Where** does this course fit? Select from the following:

<input checked="" type="checkbox"/> General Education/Pathways	Select ONE of the following: Life and Physical Science (LPS) <input type="checkbox"/> Math and Quantitative Reasoning (MQR) <input type="checkbox"/> World Cultures and Global Issues (Group A) <input type="checkbox"/> U.S. Experience in its Diversity (Group B) <input type="checkbox"/> Creative Expression (Group C) <input checked="" type="checkbox"/> Individual and Society (Group D) <input type="checkbox"/> Scientific World (Group E)
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4. **List the Course Learning Outcomes** – Course Learning Outcomes are measurable/demonstrable, containing “**action verbs**” (Blooms Taxonomy).

Course Learning Outcomes
1. <u>Develop general awareness of computers’ impact on their lives</u> : Students will gain an appreciation of the outsize impact of technology and its uses on every aspect of societal interaction, both generally and specifically. Students will understand and be able to engage with hardware, software, applications, networking and security issues.
2. <u>Apply technological tools to their own endeavors</u> : Students will, by the conclusion of this course, be able to demonstrate and apply computer-based resources to their own specific fields of endeavor.
3. <u>Appreciate the role of computers and other tools of technology in society</u> : Students will gain an understanding of the ways in which information technology has contributed to society (positives, as well as cautionary awareness), ways in which these technologies can and have been applied, and expected future impacts. Informed discourse regarding the intersection of technological change and the social, economic, business and philosophical transformation of the world around as affected by technologies of the past decade. Consideration of potential and definitive implications for the future.
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Course Learning Outcome	Percentage of Grade	Measurement of Learning Outcome (Artifact/Assignment/Activity)
1. Demonstrate general technological literacy and awareness	30%	Course exams (two class exams, one final exam)
2. Apply technological and computer-based tools to their own fields and/or endeavors.	15%	Laboratory Exercises and Assignments

3. Appreciate and understand the role and impact of computers in society, including understanding of matters affecting privacy, security and societal engagement.	30%	Course exams (two class exams, one final exam)
4. Civic Engagement	25%	Essay and/or programming project

6. **Who** is expected to enroll in this course? Please provide details for the student population(s), degree program(s)/certificate(s), and applicable concentration(s), this course is expected to include.

Kingsborough Community College students will benefit from enrollment in this course, personally, professionally, and academically. Computer-related tools, concepts and resources can be applied in a variety of disciplines and endeavors. All enrolled students in this course will gain a broad and diverse understanding of the computer-based technologies ubiquitous in society today, along with an understanding of their advantages, disadvantages and sometimes-outsized impact.

7. Explain **why** this course is a necessary addition to the curriculum. **REMINDER** – Explain the course’s role within the selected Pathways Group or Degree program – How does this course meet the Program Learning Outcomes (PLOs)? Was the course a recommendation from a recent Annual Program Review (APR), Advisory Board, Accrediting Body, etc.? How might this course help students seeking to transfer to a 4-yr college or transition into a career after KCC?

A primary goal of this course is to help students achieve excellence in their studies and future endeavors by providing all students with foundational knowledge that is critically important in modern society. The computer-dependent tools, knowledge, and resources about which they will be made aware will facilitate the strengthening of critical-thinking skills, listening and analytical skills and the application of the scientific method to exploring phenomena around them.

The course also provides broad curricular exposure, as students learn how digital tools have application not only to their own areas of interest, but also to other areas of study at the college. A wide range of disciplines use computers and one of the goals of this course is to show students how that is so.

Finally, this course is designed to help maximize flexibility for potential movement of students between CUNY campuses. The topics impact various disciplines in multiple areas of study (including interdisciplinary study) and present general foundational knowledge of computer science and its applications that are universally applicable.

For student majors in computer-related disciplines in particular, this course will provide a perspective which – due to time constraint -- is often not provided in the technical courses that constitute the requirements of the major.

CIS 100 will be a Civic Engagement course.

8. Upon transfer, does this course meet a specified requirement for a degree at a 4-year institution? If so, please include the institution and degree program. It is recommended you review your current [Articulation Agreements](#).

This course design and content meet the Pathways Flexible Core: Individual & Society requirement for all undergraduate CUNY colleges.

9. Will adding the course potentially **conflict** with other courses – in content or subject matter – offered in either your Department or in *another* Department? If it will, please explain **how** and indicate **why** the course is still necessary.

CIS 100 will not conflict with other offerings.

10. Proposed textbook(s) and/or other required instructional material(s), including open educational resources (OER)– Please include any supplemental/recommended materials/texts to allow for **any** qualified instructor to teach the course:

Primary (Required)Text:

Understanding the Digital World : What You Need to Know about Computers, the Internet, Privacy, and Security. Second Edition. KERNIGHAN, Brian W., Princeton University Press, 2021.

E-book ISBN 978-0-691-21896-0 or

Softcover ISBN 978-0-691-21910-3 or

Hardcover ISBN 978-0-691-21909-7

OER Resources for text at <https://press.princeton.edu/books/ebook/9780691218960/understanding-the-digital-world>

11. Common Syllabus Topical Course Outline (general)

week	CONTENT	LEARNING OUTCOME	ASSESSMENT
1	General overview of computing and the digital landscape. Real world practical examples of digital influence and impacts.	Understand in a wide-ranging way what are the digital tools available today, and how today's digital devices are – and are not -- useful.	Exam questions on general concepts and examples.
2	Fundamental elements of digital literacy: The Hardware, The Software, Networking, & Programming in general.	Gain fundamental digital concept literacy (beyond general common knowledge).	Exam questions covering topics studied.
3	When to get the computer or other digital device to respond to natural language vs. when to “write a program”.	Demystifying computer programming.	Classroom interaction and discussion.
4	Types of Software: off-the-shelf (and their uses) vs. custom developed/coded.	Learn what's out there and how it can be used.	Exam questions covering topics studied.
5	Overview (history & concepts) of the internet, the web, smartphones, & other and various computer devices/technologies.	Demystifying what the internet and web are really all about, behind the scenes.	Exam questions covering topics studied.
6	Issues of security and privacy with computer systems & networks.	Computer security; All aspects overview.	Exam questions covering topics studied.
7	Issues of privacy and ethics with computer systems & networks.	Computer ethics; All aspects overview.	Classroom interaction and discussion.
8	Artificial Intelligence: history and current state of affairs. Natural Language Processing , machine learning, Chatbots.	A.I. demystified and explained for all.	Exam questions covering topics studied.
9	Data and Information Science overview. Data Mining, Databases and I.T.	How to deal with masses of data, in a useful way.	Classroom interaction and discussion.
10	Impact of digitization on society examined.	Survey of the many and varied ways that computers and other	Classroom interaction and discussion.

		digital tools change things.	
11	Civic Engagement using computers and other digital tools in various and diverse endeavors.	Examples of ways in which digitization helps with C.E.	Preparatory work and guidance on C.E. project development.
12	Student project work (essay and/or application) on digitization as applied to C.E.	Students describe lessons learned & applied.	Production, completion and evaluation of project.

Common Syllabus Course Content (day by day)

week	CONTENT PROGRESSION	Resources & Activities (course textbook references unless otherwise specified)
1 Lab Activities	Day 1: General overview of computing and the digital landscape. Days 2, 3, 4: Real world practical examples of digital influence and impacts.	I. Kernighan, “Understanding the Digital World”: Chapter 1 II. Instructor provided handouts (topical)
2 Lab Activities	Fundamental elements of computer literacy: Day 5: The Hardware, Day 6: The Software, Day 7: Computer Networking, Day 8: What Computer Programming really is.	Assignments and activities based on content found in chapters 2, 3, 5, 8
3 Lab Activities	Days 9, 10, 11, 12: Giving computers instructions in natural language (e.g. Google query) vs. actual programming in programming languages; an overview (with examples) of what that all means.	Assignments and activities based on content found in chapters 4, 6, 7
4	Days 13, 14: Off-the-shelf software and its uses, with examples. Days 15,16: Custom developed programs.	Hands on Lab exercises using applications. Intro to the world of programming (no prior experience presumed)
5 Lab Activities	Day 17: history of computers Day 18: history of the internet & the web, other technologies Days 19,20: key developments of the 20 th and 21 st century in computer technology	Assignments and activities based on content of chapters 9, 10
6 Lab Activities	Days 21, 22, 23, 24: Issues of security and privacy with computer systems & networks.	Assignments and activities based on content of chapter 13
7	Days 25, 26, 27, 28: Issues of privacy and ethics with computer systems & networks.	Instructor provided handouts (topical)
8	Days 29, 30: Artificial Intelligence history	I. Chapter 12

	Day 31: A.I. current state of affairs. Day 32: Natural Language Processing, machine learning, Chatbots.	II. Instructor provided handouts (topical)
9	Days 33, 34: Data and Information Science overview. Days 35, 36: Data Mining, Databases and I.T.	Assignments and activities based on content of chapter 11
10	Days 37, 38, 39, 40: Impact of digitization on society and individuals examined, with case studies.	Instructor provided handouts (topical) and guidance.
11 Lab Activities	Days 41, 42, 43, 44: Civic Engagement using digital tools in a wide & diverse array of endeavors.	Assignments and activities based on content of chapter 14
12	Days 45, 46, 47, 48: Student project work (essay and/or application) on digitization applied to C.E.	Student-Instructor lab work and guidance.

12. Selected Bibliography and Source materials:

Code: The Hidden Language of Computer Hardware and Software 2nd Edition, by Charles Petzold , Pearson Education 2023.

Understanding the Digital World: What You Need to Know about Computers, the Internet, Privacy, and Security, Second Edition by Brian W. Kernighan , Princeton University Press 2021.

Computers and Society: Modern Perspectives, by Ronald M. Baecker, Oxford U. Press (2019)

Computers and Society: Computing for Good, by Lisa C. Kaczmarczyk, Chapman & Hall/CRC Textbooks in Computing (2016)

Cyberpsychology: The Study of Individuals, Society and Digital Technologies, by Monica T. Whitty and Garry Young, BPS Textbooks in Psychology (2016)

Electronic Voting: 7th International Joint Conference, E-Vote-ID 2022, Bregenz, Austria, October 4–7, 2022, Proceedings , by Robert Krimmer, Melanie Volkamer, et al. (Sep 2, 2022)

Bit by Bit: Social Research in the Digital Age, by Matthew J. Salganik, Princeton U. Press, (2019)

Frenemies: How Social Media Polarizes America, by Jaime E. Settle, Cambridge U. Press (2022)

Digital Skills for Nursing Studies and Practice, by Cristina M. Vasilica, Emma Gillaspay, et al., Learning Matters (2023)

Essential Computational Thinking: Computer Science from Scratch by Ricky J. Sethi, Cognella 2019

Fluency With Information Technology ,by Lawrence Snyder. Pearson.

Balanced Introduction to Computer Science, A by David Reed, Pearson.

Living in a digital world: Demystifying technology ,by Mark C Baker, Pearson 2021.

Computer Science: An Interdisciplinary Approach, Robert Sedgewick Kevin Wayne Addison-Wesley Professional 2016

Computer Science: An Overview, Glenn Brookshear Dennis Brylow, Pearson 2021

Digital Art: Its Arts and Science, Yue-Ling Wong, Pearson 2009

GO! All in One: Computer Concepts and Applications,by Gaskin Vargas Geoghan & Graviett , Pearson 2017

Visualizing Technology, Debra Geoghan, Pearson 2018

Exploring Getting Started with Computing Concepts, by Poatsy & Grauer, Pearson 2017