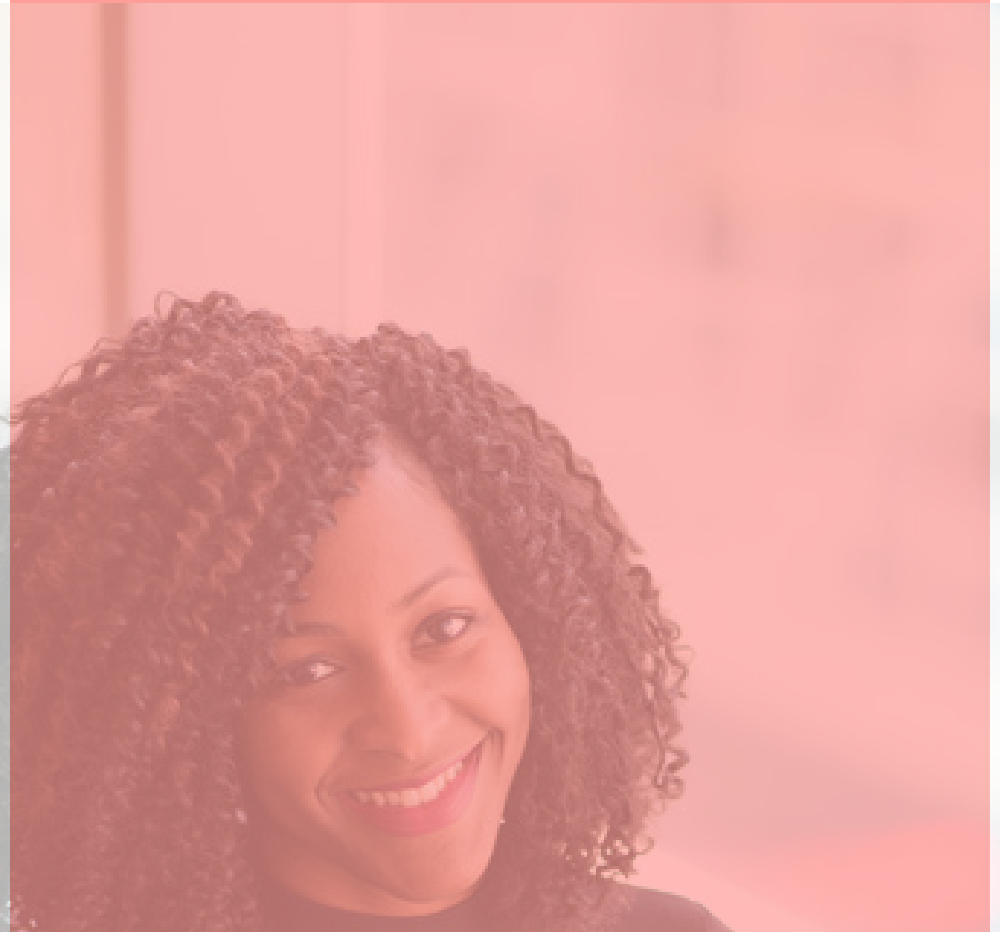

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CODE FOR CAPE TOWN

2018 PROSPECTUS

PROGRAMME OVERVIEW

CODE FOR CAPE TOWN EQUIPS FEMALE LEADERS AND INNOVATORS

Code for Cape Town strives to see a future where young women are empowered to leverage technology for social innovation, so that there is greater diversity in the African tech industry.

Right now, women are underrepresented in the tech industry due to the fact that few women select STEM study paths and therefore do not have the correct skills to be able to participate in technical fields.

Code for Cape Town provides an enabling environment for high school girls to imagine and create new technology that is relevant to a South African context.

By exposing young women to the power of technology at an early age, we aim to increase the number of women who choose to participate in STEM study fields and careers.

We help girls recognise their own potential as coders. Through a series of screenings we identify girls with the potential to be great coders whose talent should be nurtured.

IDENTIFY

NURTURE

Our programme develops girls' coding, problem solving and communication skills and nurtures girls' interest in technology. Through our fun classes, and exposure to the career options within tech, our programme positively changes the image of women in tech.

We connect young women to spaces, networks and information that will help them develop as young professionals.

Our graduates are positioned as top candidates to bursary programmes and tertiary studies.

CONNECT

CURRICULUM

Code for Cape Town's curriculum is designed to prepare learners with the skills they need to be able to bring innovative tech-based solutions to life.

The curriculum focusses on 3 key pillars: coding, social innovation and career and life skills.

CODING

Our coding curriculum moves a learner from an introductory level in which they focus on understanding programming fundamentals, to a beginner level in which they develop basic proficiency in a particular programming language, to an intermediate level with a focus on object oriented programming and practical developer skills. Our curriculum places a strong emphasis on industry standard practices and nurturing autodidactic learners who are able to further their own knowledge through independent learning.

SOCIAL INNOVATION

Throughout the program our young coders learn to use technology as a powerful tool to create social change. Learners are taught to use the design thinking process to tackle complex problems and understand how to design innovative solutions. Learners work in groups to solve real-life problems and are exposed to an enabling professional network of tech companies, facilitators, mentors and like-minded peers. Through doing so, they foster the ability to communicate effectively, collaborate and apply critical thinking to solve complex problems.

CAREER AND LIFE SKILLS

Our coders are required to work in a collaborative, self-directed manner; taking responsibility for their own learning, working in culturally diverse groups, and responding efficiently to change.

Learners are guided in developing critical life and career skills so that they might become resilient young people who are able to thrive in a 21st century work environment.

2018 CODING COURSES

For full course details including learning outcomes please see code4ct.com/courses

DATES	COURSE NAME	OVERVIEW	DURATION	COST
INTRODUCTORY COURSES				
Term 1	Intro to Coding Webpages	Code a simple one-page website using HTML and JQuery.	1	R250
Term 1	Intro to Coding Music	Code a song using a Raspberry Pi computer.	1	R250
Term 1	Intro to Coding Animations	Create a 2D animation using JavaScript.	1	R250
Term 1	Create Webpages with Code	Learn how the internet works and code a simple one-page website using HTML, CSS and JQuery.	4	R960
Term 1	Create Music with Code	Learn computer science principles by coding music with a Raspberry Pi computer.	4	R960
Term 1/2	Create Animations with Code	Learn computer science principles by coding animations using JavaScript.	4	R960
Term 1/2	Getting started as a developer	Learn how to set up a development environment and practical skills to start coding.	1	R250
BEGINNER COURSES (LEVEL 1)				
July holidays/ Term 3	Beginner Web Development: JavaScript	Develop a basic proficiency in programming structures and methods in JavaScript so that you are able to create an interactive web application.	6	R1800
July holidays/ Term 3	Beginner Web Development: Front end Development	Develop a good proficiency in CSS and an understanding of web design principles so that you are able to create visually pleasing webpages.	6	R1800
July holidays/ Term 3	Beginner Python	Develop a basic proficiency in programming principles and methods in Python.	6	R1800
INTERMEDIATE COURSES (LEVEL 2)				
Term 1/ April holiday	Intermediate Web Development: Full Stack JavaScript	Develop an understanding of the front and backend development environment and basic proficiency in server side JavaScript and object-oriented programming. By the end of the course you will be able to architect an application, control flow in an application and persist and retrieve data in a database.	6	R1800
Term 1/ April holiday	Intermediate Web Development: Website Deployment	Learn how to manage and deploy code to a server environment so that you can host your own webpages.	4	R1200

2018 SOCIAL INNOVATION COURSES

For full course details including learning outcomes please see code4ct.com/courses

DATES	COURSE NAME	OVERVIEW	DURATION	COST
July holidays	Innovation Challenge	Work in groups to design an innovative solution to a social issue by using the design thinking process.	3	R750
April/July/ Oct/ Dec holidays	CodeStorm	Work in groups to create and present a code project that addresses a particular issue.	5	R1500
Training: TBC Hackathons: ongoing	Hackathon	Participate in a hackathon along with a team of working professionals to create an innovative solution.	1/2/3	TBC
April/July/ Oct holidays	Industry Immersion	Spend a week at a tech company and gain experience in industry	5	R1500

2018 CAREER & LIFE SKILLS COURSES

For full course details including learning outcomes please see code4ct.com/courses

DATES	COURSE NAME	OVERVIEW	DURATION	COST
Quarterly	Code Conversation	Learn about tech careers from a panel of working professionals who will share their experiences with you.	1	R300
TBC	Presentation Skills	Learn how to present an idea or project in a compelling manner.	1	R300
TBC	Digital Communication Skills	Learn how to communicate and collaborate in a 21st century work environment using digital workplace tools.	1	R300
TBC	CV & LinkedIn	Learn how to present your skills effectively.	1	R300
TBC	Networking	Learn how to present yourself professionally when networking and put your skills to the test by attending local tech events. You will attend a training session and attend one event of your choice.	2	R300
TBC	Applying to tertiary studies	Make informed decisions about your future studies.	1	R300

CREATE WITH CODE SERIES

The Create with Code series is designed to give learners an introduction into the exciting world of coding, helping them to explore how creative coding can be. The package includes a testing day in which learners' aptitude is assessed.

PACKAGE

2 x Create with Code courses
1 x programming aptitude test
Aptitude results sent to administrator

PREREQUISITES

Computer literacy
English proficiency

AVAILABLE COURSES

DATES	COURSE NAME	OVERVIEW	DURATION
Term 1	Entrance test	Participants take a series of tests to assess their interest in programming.	1
Term 1/2	Create Animations with Code	Learn computer science principles by coding animations using JavaScript.	4
Term 1	Create Webpages with Code	Learn how the internet works and code a simple one-page website using HTML, CSS and JQuery.	4
Term 1	Create Music with Code	Learn computer science principles by coding music with a Raspberry Pi computer.	

RECOMMENDED ADDITIONAL COURSES

Quarterly	Intro to Coding Websites/Music/ Animations	See Coding Courses page for details of each	1
Quarterly	Code Conversation	Learn about tech careers from a panel of working professionals who will share their experiences with you.	1
Term 1/2	Getting started as a developer	Learn how to set up a development environment and practical skills to start coding.	1

PRICING

Individual	**R1800**
Group booking (6+)	**R1500**

Additional module prices available on course list

TECH INNOVATORS LEVEL 1

Covering an introduction to web development as well as an introduction to design thinking, this course helps a learners explore how technology can be used for social innovation while developing fundamentals knowledge of programming.

PACKAGE

Launch event and Parent Information Session
Login to the online learning portal
1 x Level 1 Coding course
1 x Level 1 Social Innovation Course
2 x Career and Life Skills workshops
Certificate of completion

PREREQUISITES

Meet application requirements

Recommended:
Create Websites with Code
Create Music/ Animations with Code

AVAILABLE COURSES

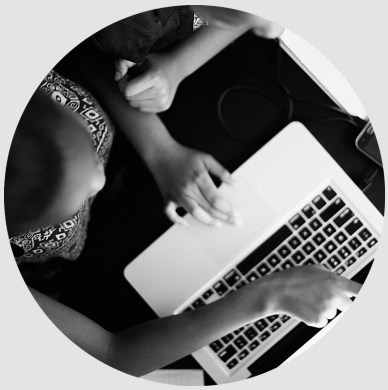
DATES	COURSE NAME	OVERVIEW	DURATION
Term 2	Programme launch & Parent Info session	Successful applicants are welcomed to the programme along with their parents.	1
July holidays/ Term 3	Beginner Web Development: JavaScript	Develop a basic proficiency in programming structures and methods in JavaScript so that you are able to create an interactive web application.	6
July holidays/ Term 3	Beginner Web Development: Front end Development	Develop a good proficiency in CSS and an understanding of web design principles so that you are able to create visually pleasing webpages.	6
July holidays	Innovation Challenge	Work in groups to design an innovative solution to a social issue by using the design thinking process.	3
Oct/ Dec holiday	CodeStorm	Work in groups to create and present a code project that addresses a particular issue.	5
Oct/ Dec holiday	Industry Immersion	Spend a week at a tech company and gain experience in industry	5
Ongoing	Career & Life Skills Workshops	Various Career & life Skills workshops run throughout the year for you to choose from. Each course is one session.	1
Term 4	Showcase	Present your year's work to family and teachers. Successful graduates will receive certificates and awards.	1

PRICING

Individual	**R4200**
Group booking (6+)	**R3500**

TECH INNOVATORS LEVEL 2

Going beyond the basics, this course enables a learner move from basic coding proficiency to the level where they are able to implement a basic coding project independently. The course has a strong focus on developing leadership skills and offers abundant opportunity for learners to interact with the tech industry.



PACKAGE

Launch event and Parent Information Session
Login to the online learning portal
1 x Level 2 Coding course
1 x Level 2 Social Innovation Course
5 x Career and Life Skills workshops
Certificate of completion

PREREQUISITES

Tech Innovators Level 1 or equivalent

AVAILABLE MODULES

DATES	COURSE NAME	OVERVIEW	DURATION
Term 2	Programme launch & Parent Info session	Successful applicants are welcomed to the programme along with their parents.	1
Term 1/ April holiday	Intermediate Web Development: Full Stack JavaScript	Develop an understanding of the front and backend development environment and basic proficiency in server side JavaScript and object-oriented programming.	6
Term 1/ April holiday	Intermediate Web Development: Website Deployment	Learn how to manage and deploy code to a server environment so that you can host your own webpages.	4
Ongoing	Career & Life Skills Workshops	Various Career & life Skills workshops run throughout the year for you to choose from. Each course is one session.	1
July holidays	Innovation Challenge	Work in groups to design an innovative solution to a social issue by using the design thinking process.	3
Oct/ Dec holiday	CodeStorm	Work in groups to create and present a code project that addresses a particular issue.	5
Oct/ Dec holiday	Industry Immersion	Spend a week at a tech company and gain experience in industry	5
Term 4	Showcase	Present your year's work to family and teachers. Successful graduates will receive certificates and awards.	1

PRICING

Individual	**R5600**
Group booking (6+)	**R4800**

CODE FOR CAPE TOWN'S YOUNG LEADERS

Kholiswa's Story

Kholiswa joined Code4CT in 2014 and went on to study web development at CodeSpace Academy. She is now working full time as a junior developer. Kholiswa believes that she will create work that will change and empower people's lives.

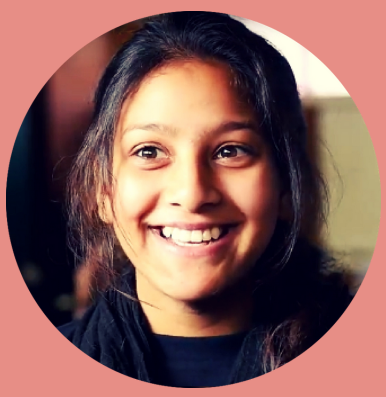
"I code because I get to create something out of that blank canvas. I build piece-by-piece until it becomes something meaningful."
"I code because I get to expand my knowledge about the technology that is around us and expand my knowledge about people that use the technology. I code because I believe I am able to create work that will change people's lives."

Before attending a Code for Cape Town workshop, girls described their feelings towards coding as "**scared, nervous, and excited**". This changed to '**excited, creative, powerful and determined**'.

Azraa's Story

Azraa loves to talk and be free, but she also loves to withdraw and bury herself in ideas and concepts. For her, coding is a zone that allows for both. On Azraa's first day with Code4CT, she felt unsure and nervous, but by the end of the day she had fallen in love with this "weird and wonderful" skill called coding. She began to see coding as a magic wand for her wildest ideas. "I no longer think inside the box," Azraa says, "or even outside the box. Rather, I think as if there is no box".

I code because it triggers the creative part of my brain.
I code because I have learned the truth behind the statement 'technology is our future'.
I code because I know that all it takes is 2 hands, 1 computer, 1 keyboard, and 1 idea to change the world.



THOUGHT SPACE | PREPARING YOUNG PEOPLE FOR THE FUTURE

"The infusion of technology into all fields has given rise to an increasing polarisation of the workforce: low-wage, lower-skilled, routine work, where workers are easily replaced by lower-priced global competitors or automated processes; and high-paying, creative work that requires a combination of complex skills.

A workforce with the skills to drive innovation is crucial to long-term economic growth. I therefore see it as an economic imperative that we invest in an education system that actively nurtures young people's ability to innovate.

To prepare young people to be able to contribute meaningfully to innovation systems, traditional content knowledge needs to be supported by 21st century skills.

21st century skills can be understood as a complex skillset that supports any content knowledge and allow a student to leverage that content knowledge in a 21st century environment.

Firstly, in addition to sound content knowledge, a learner needs to be equipped with learning and innovation skills to allow them to leverage that content knowledge for innovation. These skills include creativity, critical thinking, communication and collaboration. These skills allow learners to assimilate new knowledge effectively, connect disparate information and

Furthermore, a learner needs to be able to use, evaluate and create information, media and technology. An effective 21st century worker is for instance able to evaluate various forums on the internet to teach him/herself how to automate a routine process, implement the automation, and effectively share this knowledge with others.

Finally, a learner should be well equipped with the life skills needed to navigate fast-changing life and work environments. The Partnership for 21st Century Learning has cited the following life skills as critical for a 21st century environment: Flexibility & Adaptability; Initiative & Self Direction; Social & Cross-Cultural Skills; Productivity & Accountability; Leadership & Responsibility.

This skillset cannot be taught without experiential learning. To develop these skills, learners need to constantly practice these skills through project-based learning and meaningful reflection. We need educational environments that provide learners with a platform where they can experiment in a safe space, have their voices heard, develop their thinking and explore different perspectives.

To address industry's urgent need for skills we need to teach technology skills alongside creative problem solving, collaboration and communication skills. Learners should be given the space to user-centred design to identify problems and design meaningful solutions. Learners should apply coding skills to implement working solutions. Project-based learning is imperative so that learners experience how to work in a collaborative work environment, using appropriate technology to aid collaboration and communication.

Ultimately, I believe we need to see this kind of learning environment at scale in order to adequately address our country's skills shortage and ensure that South Africa has a workforce with skills that can drive innovation and economic growth in our country".

Originally presented by Emma Dicks at the SOUTHERN AFRICAN IMPACT INVESTING NETWORK 2016 CONFERENCE (Johannesburg, September 2016).

APPLY

Eligibility

Code for Cape Town's courses are open to:

- Female learners
- Currently in Grade 9-12
- Meet prerequisite skills for the specific course

To be considered for Tech Innovators Level 1, you must

- Complete Code4CT's problem solving challenge
- Complete at least 2 Create with Code courses OR an equivalent coding project
- Complete the application form (available on code4ct.com/apply)

To be considered for Tech Innovators Level 2, you must

- Complete Tech Innovators Level 1 or equivalent
- Complete the application form (available on code4ct.com/apply)

FINANCIAL ASSISTANCE

Code for Cape Town has a mandate to make tech education affordable to any girl who shows the required academic and leadership potential. As such, we offer financial assistance to candidates who have financial need and illustrate merit.

Learners can apply for either full or partial financial assistance.

GROUP BOOKINGS

Discounts are made available for groups over 6.

Start your application

Visit code4ct.com/apply to start your application.