

Curriculum Outline

The ACG Curriculum Consists of 5 Courses

3 Block Coding Courses







2 JavaScript Courses





Block Coding

ACG's 3 Block Coding Courses consist of 24 Missions that teach students to apply various concepts including "sequence" and "repetition".

Our patented OOBC (object-oriented block coding) is uniquely structured to familiarize students with text coding, helping them transition to the next level of writing code.







Course 1: Block Coding Elementary



Target Age 6 ~ 10

Learning Time – 4 hours

Mission 1 Off to Space We Go



Space adventure for beginners.

Event, Sequence

Astronomy

Industry, Innovation and Infrastructure

Mission 3 Hungry Recycle Robot



The giant robot that can eat up recyclable trash!

Event, Sequence, Variable

Technology

Responsible consumption and production

Mission 2 Avoid the Obstacles



Intruders from the graveyard orbit. What is their identity?

Event, Sequence, Coordinate

Astronomy

Climate Action

Mission 4

Trouble in the Little Garden



Find out what caused the roses to become sick!

Event, Variable, Coordinate

Biology

Life on Land

Mission 5

More Trouble in the Little Garden



Where's the ladybug?

Event, Variable, Coordinate, Physics

Biology

Life on land

Course 2: Block Coding Basic



Target Age 8 ~ 11

Learning Time - 32 hours

Mission 1 Find OT2



Team Astro goes inside the computer to save OT2.

Event, coordinate, variable

Technology Engineering

Industry, Innovation and Infrastructure

Mission 3
Save the Turtles



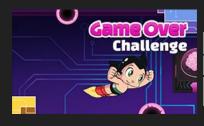
Team Astro, save the endangered sea turtles!

Event, Sequence, Physics

Biology

Life Below Water

Mission 2
Rescue OT2



Rescue OT2 before it's too late!

Event, Sequence, Speed

Engineering

Industry, Innovation and Infrastructure

Mission 4

Hailstorm Alert



The plane might crash due to a hailstorm!

Event, Sequence, Coordinate, Physics

Climatology

Partnerships for the Goals

Save the Submarine



How will Astro lift up a marine probe has sunk?

Event, Variable, Sequence, Coordinate

Astronomy

Industry, Innovation and Infrastructure

Mission 7
Stormy Night



Thunder and lightning in the mountains. The lamas are in danger!

Event, Variable, Sequence

Climatology

Partnerships for the Goals

Mission 6 Snow and Slide



An avalanche has occurred at the top of a mountain!

Sequence, Event, Variable, Frame

Climatology

Industry, Innovation and Infrastructure

Mission 8
Tornado Watch



Everyone will be in danger if the tornado isn't taken care of!

Event, Variable, Seguence

Climatology

Partnerships for the Goals

Mission 9

Rescue the Penguin



After the glacier collapsed, the penguins are <u>lost!</u>

Event, Variable, Physics

Biology

Climate Action

Mission 11

Escape the Sinkhole



The exit is nowhere to be found. Perhaps the key is inside the yarn!

Event, Array, Coordinate

Geology

Decent Work and Economic Growth

Mission 10

Astro Kitty and the Sinkhole



It's a sinkhole! Will Astro Kitty be able to find a way out?

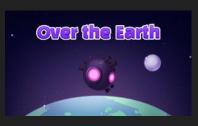
Event, Coordinate, Sequence

Geology

Decent Work and Economic Growth

Mission 12

Antimatter Device Mishap



Let's throw the antimatter thruster into outer space!

Event, sequence, physics, variable

Engineering

Industry, Innovation and Infrastructure

Mission 13 Halt the Train



The world's fastest train, the Blue Express. It has one flaw... It can't stop!!

Sequence, Event, Speed, Variable, If Statement

Physics

Industry, Innovation and Infrastructure

Course 3: Block Coding Advanced



Target Age 9 ~ 12

Learning Time - 24 hours

Mission 1 Cast Away



Suzu fell onto a deserted island. She needs to escape!

if /else Statement, Variable

Chemistry

Industry, Innovation and Infrastructure

Mission 3 Avoid the Soldier Termite



There are ferocious soldiers around the queen!

Event, if Statement, sequence

Biology

Life on Land

Mission 2 Off to Termite Kingdom



Astro Kitty is the king of the termite kingdom!

Event, Sequence, Physics

Biology

Life on Land

Mission 4 Fungi Everywhere An ancient fungus has



An ancient fungus has swallowed Dr. Blunt! How will Team Astro escape?

Operator, if Statement, Variable

Biology

Life on Land

Plasma Storm Inbound



The sun's plasma is about to hit the spaceship!

Variable, Clone, Coordinate, Event

Physics

Partnerships for the Goals

Mission 6 Deflect the Plasma Blasts



The plasma is right in front of us. What is Astro's solution?

Loop statement

Physics

Partnerships for the Goals

Block Coding Overview

Part Control Control Event Sequence Sequence Avaronmy - Planets and space Instructure Available Avaronmy - Planets and space Instructure Available Avaronmy - Planets and space Instructure	Course	CSTA	Mission	IT	STEM	SDG
Sequence, event, coordinate Technology - They role of satellities Goal 12. Exponation of and production Technology - They role of satellities Goal 12. Exponation of and production Technology - Recycling Goal 12. Exponation of and production Toroble in the Little Garden Event, coordinate, variable Biology - Insect ecology Goal 15. Life on Land	Elementary		Off to Space We Go	Event, sequence		
Hungy Recycle Robot Sequence, event, variable Fechnology - Recycling Glas I 15. Life on Land Recycle Robot Fechnology - Insacet ecology Gast 15. Life on Land Global - Insacet ecology Gast 15. Li			Avoid the Obstacles	Sequence, event, coordinate		Goal 13. Climate Action
Trouble in the Little Garden Event, coordinate, variable Biology - Insect ecology Goal 15. Life on Land			Hungry Recycle Robot		Technology - Recycling	
Find OT2 Rescue OT3 Rescue OT4 Rescue OT5 Rescue OT6 Rescue OT6 Rescue OT7 Rescue O			Trouble in the Little Garden		Biology - Insect ecology	Goal 15. Life on Land
Pini O 12 Event, coordinate, variable Engineering - Computers and viruses Infrastructure Rescue OT2 Event, sequence, speed Engineering - Computers and viruses Infrastructure Save the Turtles Event, sequence, physics Biology - Ocean ecology Goal 14. Life Below Water Levent, sequence, coordinate, physics Save the Submarine Event, variable, sequence, coordinate valuer according to heat Save the Submarine Event, variable, sequence, coordinate valuer according to heat Snow and Slide Sequence, event, variable, frame Snow and Slide Sequence, event, variable, frame Climatology - How lightning is created Engineering - Conductors and frastructure Tornado Watch Event, variable, sequence Climatology - How lightning is created Engineering - Conductors and Infrastructure Tornado Watch Event, variable, sequence Climatology - How lightning is created Engineering - Conductors and Infrastructure Tornado Watch Event, variable, sequence Climatology - How lightning is created Engineering - Conductors and Infrastructure Tornado Watch Event, variable, sequence Climatology - How lightning is created Engineering - Conductors and Infrastructure Tornado Watch Event, variable, sequence Climatology - How lightning is created Engineering - Conductors and Infrastructure Astro Kitty and the Sinkhole Event, variable, esquence Climatology - How a tornado is formed Goal 17. Partnerships for the Goals Engineering - Conductors and Infrastructure Astro Kitty and the Sinkhole Event, variable, physics Biology - Polar ecosystem Goal 18. Decent Work and Economic Growth Escape the Sinkhole Event, array, coordinate Event, sequence, physics, variable Event, sequence, physics, variable Conditions, variable Conditions Variable, physics - Variable, p			More Trouble in the Little Garden	Event, coordinate, physics, variable	Biology - Insect ecology	Goal 15. Life on Land
Rescue O12 Event, sequence, speed Engineering - Computers and virtuses Intrastructure Save the Turtles Event, sequence, coordinate, physics Basic 1A-AP-11 1A-AP-12 Stormy Night Event, variable, sequence Sequence, event, variable, frame Climatology - How hall is formed Goal 17. Partnerships for the Goals Climatology - How hall is formed Goal 17. Partnerships for the Goals Climatology - How hall is formed Goal 17. Partnerships for the Goals Climatology - How hall is formed Goal 17. Partnerships for the Goals Climatology - How hall is formed Goal 17. Partnerships for the Goals Climatology - How an avalanche occurs Growth Climatology - How inphining is created Engineering - Conductors and Infrastructure Climatology - How inphining is created Engineering - Conductors and Infrastructure Climatology - How inphining is created Engineering - Conductors and Infrastructure Climatology - How inphining is created Engineering - Conductors and Infrastructure Conductors and Infrastructure Goal 17. Partnerships for the Goals Coal 17. Partnerships for the Goals Goal 17. Partnerships for the Goals Advanced 1B-AP-00 1B-AP-10 1B-AP-11 Fundamental Power Mork and Economic Growth Growth Growth Goal 18. Decent Work and Economic Growth Growth Goal 19. Industry, Innovation and Infrastructure Geology - How sinkholes are formed Goal 9. Industry, Innovation and Infrastructure Goal 9. Industry, Innovation and Infrastruc	Basic		Find OT2	Event, coordinate, variable	Engineering - Computers and viruses	
Hailstorm Alert Event, sequence, coordinate, physics Climatology - How hall is formed Goal 17. Partnerships for the Goals Save the Submarine Event, variable, sequence, coordinate Committed Growth Gr			Rescue OT2	Event, sequence, speed	Engineering - Computers and viruses	
Save the Submarine Event, variable, sequence, coordinate water according to heat Goal 8. Decent Work and Economic Growth Snow and Slide Sequence, event, variable, frame Climatology - How an avalanche occurs Infrastructure 1A-AP-11			Save the Turtles	Event, sequence, physics	Biology - Ocean ecology	Goal 14. Life Below Water
Basic 1A-AP-11 1A-AP-12 Stormy Night Event, variable, sequence, coordinate Climatology - How an avalanche occurs Growth Goal 9, Industry, Innovation and Infrastructure Climatology - How lightning is created Engineering - Conductors and nonconductors Goal 17, Partnerships for the Goals Coal 17, Partnerships for the Goals			Hailstorm Alert	Event, sequence, coordinate, physics	Climatology - How hail is formed	Goal 17. Partnerships for the Goals
Basic IA-AP-11 IA-AP-12 Stormy Night Event, variable, sequence Event, variable, sequence Climatology - How lightning is created Engineering - Conductors and nonconductors Tornado Watch Rescue the Penguin Astro Kitty and the Sinkhole Event, variable, physics Biology - Polar ecosystem Goal 17. Partnerships for the Goals Growth Growth Goal 8. Decent Work and Economic Growth Antimatter Device Mishap Halt the Train Sequence, event, speed, variable, if conditions Advanced Advanced IB-AP-09 IB-AP-10 IB-AP-10 IB-AP-11 Fungi Everywhere Plasma Storm Inbound Somma Side Sequence, event, variable, eventee Event, variable, sequence Event, variable, sequence Climatology - How linkholigs created Engineering - Conductors and nonconductors Climatology - How lightning is created Engineering - Conductors and speed of a color of a conditions Climatology - How lightning is created Engineering - Conductors and speed of a color of			Save the Submarine	Event, variable, sequence, coordinate		
Basic 1A-AP-11			Snow and Slide	Sequence, event, variable, frame	Climatology - How an avalanche occurs	
Rescue the Penguin Astro Kitty and the Sinkhole Event, coordinate, sequence Event, coordinate, sequence Geology - How sinkholes are formed Growth Growth Growth Growth Growth Goal 8. Decent Work and Economic Growth Growth Goal 8. Decent Work and Economic Growth Growth Goal 8. Decent Work and Economic Growth Growth Goal 9. Industry, Innovation and Infrastructure Bequence, event, speed, variable, if conditions The movement of the air depending on the temperature Advanced Avoid the Soldier Termite Fundi Evert, sequence, physics Fundi Evert, sequence Plasma Storm Inbound Event, variable, duplicate, coordinate, event Physics - Plasma and magnetic fields Biology - Polar ecosystem Goal 13. Climate Action Goal 8. Decent Work and Economic Growth Growth Growth Goal 9. Industry, Innovation and Infrastructure Coal 9. Industry, Innovation and Infrastructure Biology - Termite ecology Goal 9. Industry, Innovation and Infrastructure Biology - Fungal ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Fermite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Termite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Fermite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Fermite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Fermite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Fermite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Fermite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Fermite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Fermite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Fermite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Fermite ecology Goal 15. Life on			Stormy Night	Event, variable, sequence	Engineering - Conductors and	Goal 17. Partnerships for the Goals
Astro Kitty and the Sinkhole Event, coordinate, sequence Geology - How sinkholes are formed Growth Escape the Sinkhole Event, array, coordinate Geology - How sinkholes are formed Growth Antimatter Device Mishap Event, sequence, physics, variable Event, sequence, physics, variable acooling system Halt the Train Sequence, event, speed, variable, if conditions Physics - Momentum and velocity Infrastructure Cast Away If ~ else conditions, variable Event, sequence, physics Biology - Termite ecology Goal 15. Life on Land Advanced 1B-AP-10 1B-AP-10 1B-AP-11 Fungi Everywhere Plasma Storm Inbound Variable, duplicate, coordinate, event Physics - Plasma and magnetic fields Goal 17. Partnerships for the Goals			Tornado Watch	Event, variable, sequence	Climatology - How a tornado is formed	Goal 17. Partnerships for the Goals
Astro Kitty and the Sinkhole Event, coordinate, sequence Geology - How sinkholes are formed Growth Escape the Sinkhole Event, array, coordinate Geology - How sinkholes are formed Growth Antimatter Device Mishap Event, sequence, physics, variable Antimatter Device Mishap Event, sequence, event, speed, variable, if conditions Physics - Momentum and velocity Infrastructure Math - Arithmetics Goal 9. Industry, Innovation and Infrastructure Conditions Physics - Momentum and velocity Infrastructure Infrastructure Cast Away			Rescue the Penguin	Event, variable, physics	Biology - Polar ecosystem	Goal 13. Climate Action
Escape the Sinkhole Antimatter Device Mishap Event, sequence, physics, variable Event, sequence, physics, variable, if conditions Sequence, event, speed, variable, if conditions Math - Arithmetics Physics - Momentum and velocity Infrastructure Goal 9. Industry, Innovation and Infrastructure Chemistry - The movement of the air depending on the temperature Off to Termite Kingdom Event, sequence, physics Biology - Termite ecology Goal 15. Life on Land Event, if conditions, sequence Comparison operator, event, if conditional statement, variable Plasma Storm Inbound Variable, duplicate, coordinate, event Physics - Plasma and magnetic fields Growth Goal 9. Industry, Innovation and Infrastructure Biology - Termite ecology Goal 15. Life on Land Goal 9. Industry, Innovation and Infrastructure Biology - Termite ecology Goal 15. Life on Land Comparison operator, event, if conditional statement, variable Plasma Storm Inbound Variable, duplicate, coordinate, event Physics - Plasma and magnetic fields Goal 17. Partnerships for the Goals			Astro Kitty and the Sinkhole	Event, coordinate, sequence	Geology - How sinkholes are formed	
Antimatter Device Mishap Event, sequence, physics, variable cooling system Halt the Train Sequence, event, speed, variable, if conditions Sequence, event, speed, variable, if must be conditions Math - Arithmetics physics - Momentum and velocity Physics - Momentum and velocity Infrastructure Goal 9. Industry, Innovation and Infrastructure Chemistry - The movement of the air depending on the temperature Off to Termite Kingdom Event, sequence, physics Biology - Termite ecology Goal 15. Life on Land Event, if conditions, sequence Comparison operator, event, if conditional statement, variable Plasma Storm Inbound Variable, duplicate, coordinate, event Physics - Plasma and magnetic fields Goal 17. Partnerships for the Goals			Escape the Sinkhole	Event, array, coordinate	Geology - How sinkholes are formed	
Advanced Advanced Bis-AP-09 1B-AP-10 1B-AP-11 Pungi Everywhere Conditions Conditions Physics - Momentum and velocity Infrastructure Cast Away if ~ else conditions, variable Chemistry - The movement of the air depending on the temperature Infrastructure Conditions Physics - Momentum and velocity Infrastructure Chemistry - The movement of the air depending on the temperature Infrastructure Off to Termite Kingdom Event, sequence, physics Biology - Termite ecology Goal 15. Life on Land Event, if conditions, sequence Biology - Termite ecology Goal 15. Life on Land Comparison operator, event, if conditional statement, variable Plasma Storm Inbound Variable, duplicate, coordinate, event Physics - Plasma and magnetic fields Goal 17. Partnerships for the Goals			Antimatter Device Mishap	Event, sequence, physics, variable	, , ,	
Advanced Advanced Bis-AP-09 1B-AP-10 1B-AP-11 1B-AP-11 1B-AP-11 1B-AP-11 1B-AP-11 1B-AP-11 1B-AP-11 1B-AP-11 1B-AP-11 1B-AP-10 1B-AP-11 1B			Halt the Train			
Advanced Ba-AP-09 1B-AP-10 1B-AP-11 1B-AP-10 1B-AP-11 Pungi Everywhere Plasma Storm Inbound Avoid the Soldier Termite Event, if conditions, sequence comparison operator, event, if conditional statement, variable Variable, duplicate, coordinate, event Physics - Plasma and magnetic fields Goal 15. Life on Land Goal 15. Life on Land Goal 17. Partnerships for the Goals	Advanced	1BAP-10	Cast Away	if ~ else conditions, variable		
Advanced Biology - Termite ecology Goal 15. Life on Land BAP-10			Off to Termite Kingdom	Event, sequence, physics	Biology - Termite ecology	Goal 15. Life on Land
1B-AP-11 Fungi Everywhere comparison operator, event, if conditional statement, variable Plasma Storm Inbound Variable, duplicate, coordinate, event Physics - Plasma and magnetic fields Goal 17. Partnerships for the Goals			Avoid the Soldier Termite	Event, if conditions, sequence	Biology - Termite ecology	Goal 15. Life on Land
			Fungi Everywhere			Goal 15. Life on Land
Deflect the Plasma Blasts Loop statements Physics - Plasma and magnetic fields Goal 17. Partnerships for the Goals			Plasma Storm Inbound	Variable, duplicate, coordinate, event	Physics - Plasma and magnetic fields	Goal 17. Partnerships for the Goals
			Deflect the Plasma Blasts	Loop statements	Physics - Plasma and magnetic fields	Goal 17. Partnerships for the Goals

JavaScript

ACG's 2 JavaScript Courses consist of 12 different Missions that teach students advanced concepts such as "functions" and "arrays".

With the help of ACG's autofill feature, students who may be new to text coding can easily select the desired command to input.





Course 4: JavaScript Advanced



Target Age 10 ~ 13

Learning Time - 35 hours

Mission 1

Bobo's Not Pleased



A gorilla kidnapped a child?!

Event, Sequence

Astronomy

Industry, Innovation and Infrastructure

Mission 3

Approaching Sandstorm



A sandstorm is sweeping over the city!

Event, Coordinate, Random number

Climatology

Climate Action

Mission 2 Into the Ocean



What has happened to the coral reef?

Coordinate

Biology

Life Below Water

Mission 4 Paleozoeic Nightmare



An island ruled by insects?

Event, coordinate, if Statmenet, variable

Biology

Life on Land

Mission 5

Disable the Frequency Emitter



What is the machine that is tormenting the whale?

Variable, if /else Statement, vent

Astronomy

Industry, Innovation and Infrastructure

Mission 7 Poison Mountain Analysis



So many withered leaves... What happened on this mountain?

if Statement, variable, Operator, Event

Chemistry

Responsible consumption and production

Mission 6

Damaged Satellite



Team Astro faces an unprecedented crisis trying to make repairs!

Variable, if/else Statement, Operator

Technology

Climate Action

Mission 8

Poison Mountain Restoration



A giant explosion is imminent! Astro has a powerful secret weapon.

Global variable, if Statement, Operator

Chemistry

Responsible consumption and production

Course 5: JavaScript Mastery



Target Age 10 ~ 13

Learning Time - 11 hours

Mission 1 Garbage Island



Clean the ocean before the turtles swallow the trash in the sea.

Function

Biology

Life Below Water

Mission 3
OT2's Naming Algorithm



Dr. Serene has created a new flower. What's the name?

Variable, Array, Random number

Technology

Industry, Innovation and Infrastructure Mission 2
OT2's Advice



OT2 presents today's health advice.

Variable, Array, Random number

Technology

Industry, Innovation and Infrastructure

Volcanic Nightmare



The world is engulfed in flames. Keep everyone safe!

Function, Clone, if Statement, Variable, Operator

Geology

Partnerships for the Goals

JavaScript Overview

Course	CSTA	Mission	IT	STEM	SDG
Advanced	1B- AP- 11 2-AP-11	Bobo's Not Pleased	Event, coordinate, sequence	Biology - Habits of the mountain gorilla	Goal 15. Life on Land
		Into the Ocean	Event, coordinate, sequence	Biology - Coral Reef ecology	Goal 14. Life Below Water
		Approaching Sandstorm	Event, coordinate, random number	Climatology - How sandstorms are formed Engineering - Solving problems through a scientific approach	Goal 13. Climate Action
			Event, coordinate, random	Biology - Paleozoic climate	Goal 15. Life on Land
		Paleozoeic Nightmare	number, if conditional statement, variable		
		Disable the Frequency Emittee	Variable, if ~ else conditional statement, event	Biology - Animals using ultrasound	Goal 14. Life Below Water
		Damaged Satellite	Variable, if ~ else conditional	Technology - Role of satellites	Goal 13. Climate Action
			statement, arithmetic operator, event		
		Poison Mountain Analysis	Conditional statement, variable, arithmetic operator, event	Chemistry - Flame reactions to metal elements	Goal 12. Responsible consumption and production
		Poison Mountain Restoration	Global variable, conditional statement, arithmetic operator, event	Chemistry - Flame reactions to metal elements	Goal 12. Responsible consumption and production
Mastery	1B-AP-12 2-AP-12 3-AP-14	Garbage Island	Function	Biology - Impact of marine pollution on the ecosystem	Goal 14. Life Below Water
		OT2's Advice	Variable, array, random number	Technology - Artificial intelligence	Goal 9. Industry, Innovation and Infrastructure
		OT2's Naming Algorithm	Variable, array, random number	Technology - Plant engineering	Goal 9. Industry, Innovation and Infrastructure
		Volcanic Nightmare	Function, cloning, if conditional statement, variable, operator	Geology - Volcanic activity	Goal 17. Partnerships for the Goals

