

The major topics covered include:

- Open source embedded product development tools and programming.
- Sensor and End-Effector interfacing with AVR microcontrollers.
- Speed and Direction control of wheeled robots using AVR microcontrollers.
- Android App development for wireless control of robots.
- Building RPA applications using UiPath Studio.

Focus Group

Faculty of Technical Institutions all over India, preferably from Electronics, Computer & Electrical Engineering.

Mode of Programme

The programme will be conducted in online mode as per the time schedule given below. The participants must have a Personal Computer with Internet connectivity to attend the theory & hands-on sessions.

Certificate

Certificates will be issued by AICTE after successful completion of assessments with above 80% attendance.

Registration

Registration through AICTE web site
<https://atalacademy.aicte-india.org/signup>



Programme in Brief				
	09:30-11:00	11:15-12:45	1:45-3:15	3:30-5
	Session-1	Session-2	Session-3	Session-4
6-9-2021	Introduction to ArduBlock coding	Building a Simple wheeled robot using ArduBlock Coding	Design and development of Android Application for Robot Control	Implementation and demonstration of robot
	Session-5	Session-6	Session-7	Session-8
7-9-2021	Introduction to ATmega2560 microcontroller & Embedded C programming - I	Introduction to ATmega2560 microcontroller & Embedded C programming - II	Interfacing the peripherals devices - I/O, ADC, Timer, PWM	Introduction to virtual tools for design and development.
	Session-9	Session-10	Session-11	Session-12
8-9-2021	Direction control of a wheeled robot - Session 1	Virtual practise session on direction control implementation	Speed control of a wheeled robot - Session 1	Virtual practise session on speed control implementation
	Session-13	Session-14	Session-15	Session-16
9-9-2021	Interfacing distance measurement sensor with Robot	Virtual practise session on sensor interfacing and testing.	End-Effectors used in Robotics	Sensors used in Robotics
	Session-17	Session-18		
10-9-2021	Introduction to RPA Tools and BOT Design	Design of Simple RPA based BOT - I	Design of Simple RPA based BOT - II Design of Simple RPA based BOT - III	Valedictory

Resource Team:

Dr. Binoy B Nair

Asst. Professor, Amrita School of Engineering, Coimbatore

Mr. Ramesh C R

Asst. Professor, VASST, Thrissur. (Certified educator for UiPath RPA Tools)

Mr. Rakesh V S

Asst. Professor, VAST, Thrissur. (Awardee of e-Yantra initiative of IIT Mumbai)

Mr. Peeyush K P

Asst. Professor, Amrita School of Engineering, Coimbatore

Coordinator

Mr. Biju M J

HOD Computer Engg.

9995014468

biju.mj@rediffmail.com

Co-coordinator & Contact Person

Mrs. Gowrimol D

Lecturer in Computer Engg.

9008015773

atalfdp@gwpctsr.ac.in



Government Women's Polytechnic College

[Approved by All India Council for Technical Education
 NBA Accredited Diploma in Computer Engg. (2019-22)]
 Nedupuzha, Thrissur, Kerala, INDIA - 680007 web: gwpcsr.ac.in

All India Council for Technical Education New Delhi

AICTE Training and Learning Academy (ATAL)

Faculty Development Programme

on

Robotics & Automation

by

Computer Engg. Department
 6th – 10th September 2021

Coordinator : BIJU M J, HoD Computer Engg



DTE & Higher Education Department
 Thiruvananthapuram, Kerala, INDIA

About our Institution

Govt. Women's Polytechnic College, Thrissur, is the only Women's College in Govt. sector in Thrissur and one of the pioneer institutions in the field of Technical Education. Being an institution dedicated to the empowerment of women, it has been serving the people of this land for the past 59 years, since its establishment in 1962. Located at Thrissur, the cultural capital of Kerala, many students who passed out from this institution have achieved great heights in their personal life and have also brought glory to the nation with their contributions. This institution since its inception has been working with its mission of developing and promoting quality technical education to Women from Thrissur and from various other districts of Kerala.

We have hosted State, National and International programmes in our campus for the faculties of Technical Education. As part of MSDE-UKIERI project we conducted an FDP in 2019 in which two resource persons were from UK. Also we conducted in-campus FDP on Student Induction Programme funded by AICTE during 2019 in which 150 faculty members participated from different states of the country. We also successfully conducted ATAL FDP on Artificial Intelligence during 2020 in which 120 participants were participated. We have also conducted a National seminar during 2020.

Our Vision

To be a centre of excellence for empowerment of women by developing professional competencies and skills with social orientation through value-based technical education

Our Mission

- M-1:** To have state-of-the-art-infrastructure.
- M-2:** Enhancing engineering skills and creativity through innovative Teaching-Learning methods.
- M-3:** Imparting technical knowledge and skills with values and ethics in tune with current industrial trends.
- M-4:** Inculcating leadership qualities and commitment to society & environment.



ATAL was established with the vision to empower faculty to achieve goals of Higher Education such as access, equity and quality.

- To set up an Academy which will plan and help in imparting quality technical education in the country.
- To support technical institutions in fostering research, innovation and entrepreneurship through training
- To stress upon empowering technical teachers & technicians using Information & Communication Technology
- To utilize SWAYAM platform and other resources for delivery of trainings.

- To provide a variety of opportunities for training and exchange of experiences such as workshops, orientations, learning communities, peer mentoring and other faculty development programmes.
- To support policy makers for incorporating training as per requirements

Computer Engineering Department

Diploma in Computer Engineering in GWPC Thrissur was commenced in 1987. Around 1350 girl students have successfully completed Diploma in Computer Engg. since then. Many students secured professional jobs and others went for higher education. The Computer Engg. Diploma programme secured NBA accreditation as the first NBA Accredited Diploma programme in the State of Kerala under Outcome Based Education (OBE) for 3 years from 2019 to 2022.

We conducted many FDPs for the faculty of Technical Education Department during the past years. In 2020 we coordinated an ATAL FDP on Artificial Intelligence in which 120 teachers participated from all over India. Considering the experience acquired from these programmes, ATAL sanctioned this FDP on Robotics for the year 2021.

Robotic and Automation Process

This FDP introduces open-source embedded development tools for robotic applications. Also covers on how to use UiPath Tools for developing Robotic and Automation Process (RPA) based applications.