

# ADVANCED SKILL DEVELOPMENT COURSES



# Contents

Additional Skill Acquisition Programme (ASAP) .....	3
Advanced Skill Development Centers (ASDCs) .....	3
Courses to be offered in Engineering Colleges:.....	6
Courses to be offered in Polytechnics:.....	7
<b>VIRTUAL REALITY 201- BEGINNER LEVEL</b> .....	<b>8</b>

## Additional Skill Acquisition Programme (ASAP)

---

The Additional Skill Acquisition Programme (ASAP) is a skilling intervention, jointly implemented by the Department of General Education and the Department of Higher Education, Government of Kerala, targeted towards tackling the issue of low employability among youth in Kerala, by imparting foundation skills and industry-relevant training to select students of Government and Government-

aided schools and undergraduate colleges, which are associated Partner Institutions within the programme. From its inception in 2012, ASAP has been able to make commendable impact within the skilling eco-system in the State, both in terms of skilling the youth of the State, as well as implementing national qualification framework and establishing programme-wise quality assurance framework.

## Advanced Skill Development Centers (ASDCs)

---

Realizing the gap between the skill sets required by the industry and the knowledge level of the students in Higher education institutions in the state, ASAP set up its Advanced Skill Development Centres in Engineering Colleges and Polytechnics across Kerala. The ASDCs are envisioned to equip students with futuristic and advanced skill sets required for 4.0 industrial revolution. The

training conducted through ASDCs will be in sync with industry requirements regularly updated to meet emerging market needs and will be transacted through qualified and competent professionals thereby equipping students with the skills, capabilities and competencies required to be globally competitive and tap the emerging potential opportunities.

## What we do?

---

### Identifying institutions for setting up ASDCs:

The institutions where the ASDCs are set up and courses are offered are identified considering academic factors such as the results of students, interest of the institution fraternity towards new schemes, infrastructure available at the institutions, etc. A nodal officer is also appointed at each ASDC for coordinating the activities for the respective institution.

### Faculty Development Programmes:

Based in the underlying perception that the upskilling of the pupil begins with the upskilling of the teacher, ASAP conducts regular “Training of Trainers” programmes to bring to pace the faculty members with the changes in the technologies used by the industry.

### Student Mobilization:

ASAP has a strong team of over 200 Programme Managers across the state who are actively involved in student mobilization activities such as campaigning at each

institution and orientation to the students across colleges and subject streams to facilitate informed decision-making.

### Offer courses based on Industry Skill Requirements

Based on field surveys and analysis of various studies conducted we list down the courses that are currently industry-relevant. The courses and the curriculum is regularly updated to meet the emerging market needs and prepare human resources in future ready skills demanded by 4th generation industry. The courses offered at ASDCs are either developed in-house by the Curriculum division of ASAP or offered by major industries working in the skill development domain. All the courses offered at ASDCs are NSQF aligned.

### Course transaction:

The courses are offered at ASDCs using teaching aids such as videos, presentations and study material, that is available both offline as well as online, to ensure that core

ideas and concepts are delivered in the intended manner. The faculty trained through the FDP aid the students in completing the courses on time. Furthermore, innovative strategies such as focus group discussions are conducted among students at different skill levels to understand their aspirations. Feedbacks are collected from students at regular intervals to formulate training methods that suit student needs.

#### Assessment & Certification:

The assessments for the courses are conducted by the industry partners through separate assessment platforms. The students successfully completing all Modules and assessments of the course, will be jointly certified by ASAP and the respective industry partner who is the course provider for that course

## Courses to be offered in Engineering Colleges:

Course Name	Duration	Beneficiary Category	Branch	Industry Partner	Fees	Certification
Artificial Intelligence Developer	756 Hours	S5	Any	ASAP	Rs 35000/-	Exact Amount to be fixed
Life Skill Module	100 Hours	3 <sup>rd</sup> Semester	Any	ASAP	Rs3000/- Engineering Colleges	Rs 2500/- (BEC Certification)
Google Associate Cloud Engineer	48 Hours	7 <sup>th</sup> Semester	CS/IT/ECE	Google	NIL	40\$
Robotic process Automation	42 Hours	5 <sup>th</sup> Semester	Any	UiPath	NIL	150\$
Virtual Reality 201 – beginner Level	60 Hours	5 <sup>th</sup> Semester	Any	Facebook School of Innovation – sv.co	NIL (for 1st Batch)	NIL (for 1st Batch)
TCS – Industry Honor Certification	4 Semesters (Each Course 90 Hours)	5 <sup>th</sup> Semester	Any	TCS	Rs 42000/- for 4 electives	IHC will be awarded for students who successfully complete all 4 courses
Salesforce Developer	92 Hours	7 <sup>th</sup> Semester	Any	Salesforce	NIL	200 \$
Salesforce Administrator/ Business Analyst	48 Hours	3 <sup>rd</sup> Semester	Any	Salesforce	NIL	200 \$
Generative Design Beginner Level	45 Hours	3 <sup>rd</sup> Semester	Mechanical/ Civil	AUTODESK		Rs 3000 + GST
AWS Academy Cloud Foundation	20 Hours	5 <sup>th</sup> Semester	Any	AWS Academy	NIL	50\$ + GST
AWS Academy Cloud Associate	40 Hours	Students completing Cloud Foundation	Any	AWS Academy	NIL	75\$ + GST
SDPK Courses	Details will be communicated later					

## Courses to be offered in Polytechnics:

Course Name	Duration	Beneficiary Category	Branch	Industry Partner	Fees	Certification
Life Skill Module	100 Hours	1 <sup>st</sup> Semester	Any	ASAP	Rs 1500/- for Polytechnic	Rs 2500/- (BEC Certification)
Salesforce Administrator/ Business Analyst	48 Hours	3 <sup>rd</sup> Semester	Any	Salesforce	NIL	200 \$
Salesforce Developer	92 Hours	5 <sup>th</sup> Semester	Any	Salesforce	NIL	200 \$
Generative Design Beginner Level	45 Hours	3 <sup>rd</sup> Semester	Mechanical / Civil	AUTODESK	NIL	Rs 3000 + GST
AWS Academy Cloud Associate	40 Hours	Students completing Cloud Foundation	Any	AWS Academy	NIL	75\$ + GST

## VIRTUAL REALITY 201- BEGINNER LEVEL

---

**ABOUT THE COURSE:** Virtual reality being one of the most promising areas of growth and potential opportunities, ASAP has associated with [sv.co](http://sv.co) which is the sole organization delivering the Virtual reality course framed by the Facebook School of Innovation that helps engineering students in India make the most

of the rapidly emerging tech ecosystem. The curriculum for the course is framed by the Facebook School of innovation is a complete online programme, delivered through the e-learning platform **Pupilfirst** by [sv.co](http://sv.co). The programme consists of two semesters.

**#Note: PRESENTLY THE COURSE WILL BE OFFERED ONLY AT GOVERNMENT ENGINEERING COLLEGE, BARTON HILL, TRIVANDRUM**

### Objective

---

- Introduce the students to learn about Virtual Reality and skills required to become a Unity VR developer.
- to create an adaptive 3D the virtual environment that meets the needs of trainee interpreters and those who need to learn about how to work with interpreters
- to test and evaluate the virtual environment and the pedagogic content



## COURSE OUTCOMES:

---

After the completion of the course the student will be able to

<b>CO 1</b>	Students will be able to well verse with the concepts of VR
<b>CO 2</b>	Students will be able to understand, articulate and criticize VR experiences/applications in sufficient detail.
<b>CO 3</b>	Students will be able to execute the concepts into demonstrable examples
<b>CO 4</b>	Students will be able to understand the requirements and the skillset to be a VR developer in current economy.

## COURSE DETAILS:

---

<b>PARTICULARS</b>	<b>VIRTUAL REALITY</b>
<b>DURATION</b>	60 HOURS
<b>TRAINER</b>	FACULTY COORDINATOR
<b>MODE OF DELIVERY</b>	OFFLINE
<b>BENEFICIARY GROUP</b>	SEMESTER 5 <sup>TH</sup>
<b>BRANCH</b>	ANY
<b>FEE STRUCTURE</b>	NIL
<b>CERTIFICATION FEES</b>	NIL

## COURSE HIGHLIGHTS:

---

- Beginner level skills in basics of VR development on Oculus platform & Unity development which includes wire framing, level designing and C# programming.
- Course curriculum framed by the Facebook School of innovation
- Delivered through the e-learning platform Pupil first by sv.co.
- Course Fee NIL for 1st Batch.
- Hands on experience

## PROJECTED JOB OPPORTUNITIES:

---

- VR/AR Developers
- Application Engineers in AR./VR
- Product Managers in VR/AR
- AR/VR Architects
- Game Developers
- Programmer/Analyst in VR
- Unity Developers - VR

## SYLLABUS FOR THE COURSE

---

### Module 1 | Introduction to VR

---

Keep it Virtual 101- Overview-Virtual Reality-Augmented Reality-Extended Reality-Principles of VR-Challenges-Headsets-History-Introduction- Platforms and Paradigms-Overview-Classification-Basic Terminologies-VR Developer Platform- Programming (using gaming engine/ any programming)

## **Module 2** | **Introduction to Unity**

---

Unity and Diversity- Overview-Basics of Unity and Gaming Engine- Unity Editor-Unity Camera-Applications-Unity Asset Store-Introduction-Inspector windows-Transform hierarchies-Basics of Oculus Go-Importing a project into Unity-Project

## **Module 3** | **Components of Unity**

---

Materials and Meshes-Overview-Introduction to 3D Objects format-Low Poly- High poly-Shader-Rendering-Fundamentals of Camera-Head Movements in VR-Lighting and Baking-Audio in VR-Animation-Animate Game object-Animation Vs Animator-Mecanim State Machine

## **Module 4** | **Scripting in Unity**

---

Basics of C# in Unity-Overview-Basics of C#-Monobehaviour Class-Scripting-Basics using unity documentation-Animating and translating-Prefabs and referencing objects-LERP-other applications-Programming Unity Animator

## **Module 5** | **Oculus Go & Basics**

---

Oculus Go-Introduction-basics of Oculus Ecosystem-Oculus VR Documentation- Oculus SDK-Installing and downloading-Warm Up Time-Overview-User Interface Vs 2D-Applications-Sandbox Showcase application: a primer-Oculus Go Device-Overview-Event System-Adding text to scene-Scene transition and Logic-create a Quiz Application

## **Module 6** | **Fundamentals of Unity Physics & Visual Effects**

---

Oculus VR- Overview-Unity Physics-Raycasting Fundamentals-Colliders-Programming- Basic navigation systems in a 3DOF- Anatomy of a Shader-Visual Effects-Overview- Particle System, Trail Renderer, Line Renderer-Post Processing Stack-Scriptable Rendering Pipeline-Project Work

## **Module 7** | **Design & Debug**

---

Debug-Overview-Types of Debugging tools-Testing-Checking Editor Logs-VR Design-Introduction-Plan, Designing & Implement- Documentation & Unity Collab-Overview-Version Control-Overview

---

## Module 8 Performance in Unity & Easter Eggs

---

Device Performance- Overview-Profilers-Usage of Unity Profiler-Principles- Challenges- Movie Player- Overview-Unity Movie player-Play Functionalities-Pause Functionalities-Stereoscopic Video-Movie texture-Application-Project Work