Postgraduate Certificate
Web Application Observability and Resilience

tech technological university

Postgraduate Certificate
Web Application Observability and Resilience

- » Modality: **online**
- » Duration: **6 months**
- » Certificate: **TECH Technological University**
- » Dedicated **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/in/information-technology/postgraduate-certificate/web-application-observability-resilience**

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01
Introduction

Organizations heavily depend on web applications to deliver their services, interact with customers and keep their operations running. In this process, it is key for the IT professional to ensure that it will work in a reliable and predictable way to guarantee complete success, as well as to solve the main incidents in this regard. This is the line of thought of this 100% online degree that leads the graduate to approach the modern concept of reliable site engineering, observability and the creation of fault-tolerant architectures, among other aspects.Advanced learning will be possible thanks to the numerous teaching resources, accessible 24 hours a day, 7 days a week, from any electronic device with an Internet connection.

"
This Postgraduate Certificate will help you develop innovative solutions to address the constant attacks and unexpected failures in web applications"

The failure of an application due to an overload of users or an implementation error can imply a high economic and reputational cost for the techniques and tools to detect any incident through logs, metrics and traces. Likewise, IT professionals must master the strategies used to adopt the necessary responses to disaster scenarios and the preparation of the team through Chos Engineering training.

In this digital ecosystem, the figure of the specialized IT professional with deep knowledge in Web Applications on Observability and Resilience becomes very relevant in the creation of projects in this area. For this reason, TECH has developed this Postgraduate Certificate 100% online of 6 weeks of duration and with the most advanced didactic materials.

It is a Postgraduate Certificate with a theoretical-practical approach that will allow you to obtain intensive learning on the Engineering of reliable sites to establish the necessary strategies in the development process. You will also delve into the necessary actions to plan the backup and recovery of data and have all the possible techniques to be able to resolve any incident.

All this, thanks to pedagogical resources such as videos in detail, video summaries, interactive diagrams or case studies, accessible 24 hours a day, from any computer, mobile or tablet with internet connection. Likewise, this teaching will be much more attractive with the Relearning method, which facilitates the assimilation of concepts in a simple way.

In short, a Postgraduate Certificate 100% online that gives the graduate the possibility to self-manage their study time and obtain a learning that raises their career opportunities within the technology sector.

This **Postgraduate Certificate in Web Application Observability and Resilience** contains the most complete and up-to-date program on the market. The most important features include:

- The development of case studies presented by experts in Software, Systems and Computing
- The graphic, schematic and practical contents of the book provide theoretical and practical information on those disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

Thanks to this Postgraduate Certificate, you will be prepared to develop Chaos Engineering strategies to train and prepare teams"

In this Postgraduate Certificate you will get an advanced learning on how to design fault resistant applications with optimal performance"

You are looking at a 100% online degree, flexible and adaptable to your professional motivations. Enroll now.

Give a boost to your professional career by mastering the techniques and tools used in Observability.

The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby students must try to solve the different professional practice situations that arise throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

02
Objectives

This Postgraduate Certificate is designed to provide the student with the knowledge and skills necessary to build high performance applications with fail over capability while maintaining system reliability. For this purpose, the graduate has a theoretical-practical syllabus, which is very useful to be able to successfully develop Web Applications. Thus, at the end of this degree, students will be prepared to design, develop and operate high-performance web applications that meet the following requirements performance, availability and security requirements.

The goal of TECH is you: give your career the boost it needs and specialize in the Fields of Web Applications in Observability and Resilience"

General Objectives

- Develop the necessary steps for the creation of the Front-end of the web application, taking into account programming aspects as well as accessibility requirements, multi-language and multi-platform support

- Create personalized experiences, monitor and monetize the use of the website

- Consolidate application design and development best practices with a project management that favors continuous iteration, integration and deployment

- Analyze in depth the aspects related to the security of web applications, with special applications, with a special focus on the most common attacks and the prevention, detection and mitigation prevention, detection and mitigation mechanisms
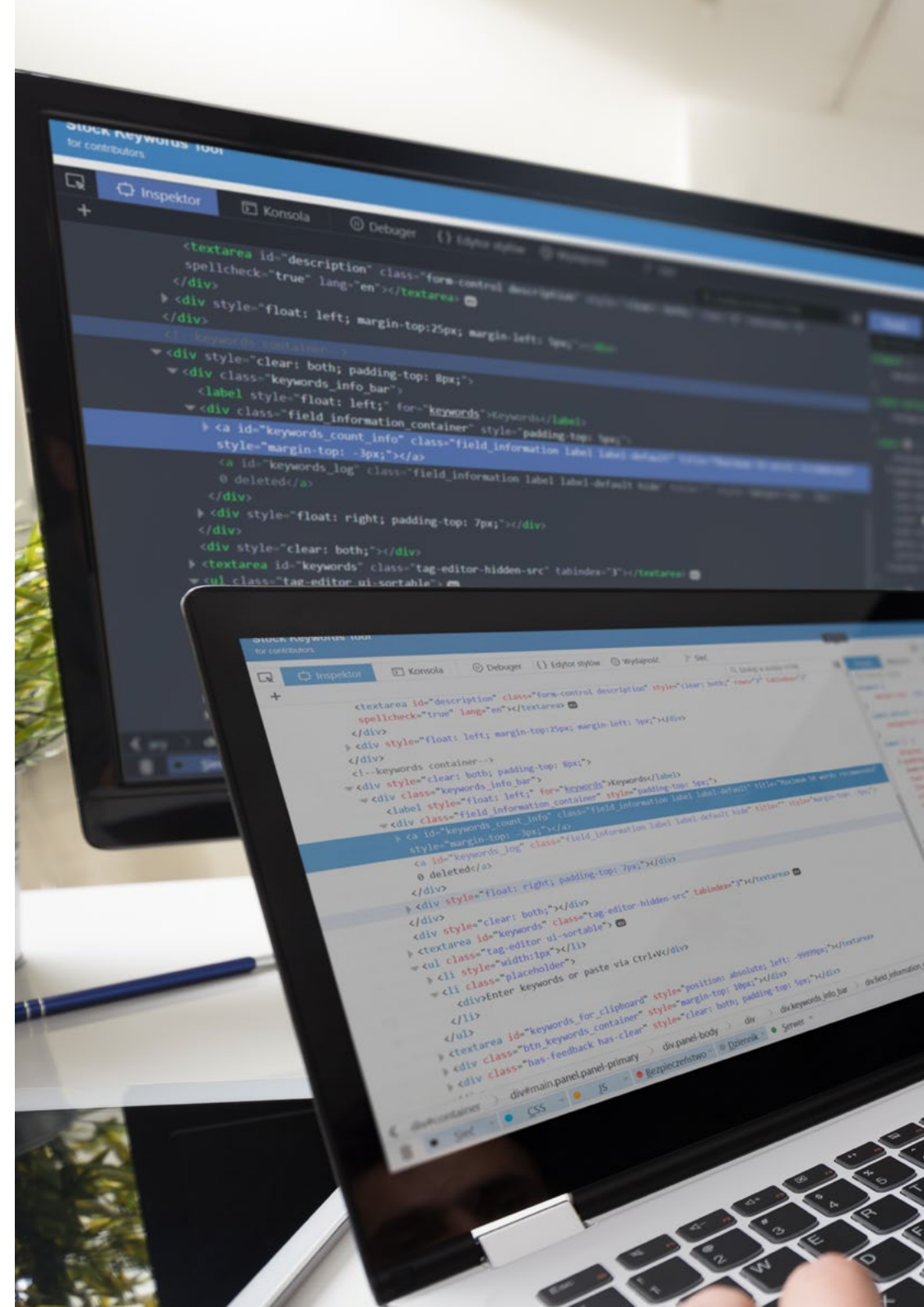
Specific Objectives

◆ Incorporate aspects of resilience and observability in development

◆ Manage the components of observability: logs, traces and metrics

◆ Determine how to design fault-tolerant architectures

◆ Discover mechanisms to ensure performance and high availability

◆ Assimilate Chaos Engineering strategies to train and prepare teams

In 6 weeks you will master the design of fault tolerant architectures. Enroll now"

03

Course Management

TECH's commitment to providing students with the highest level of learning has brought together a faculty with a broad knowledge of Software, Computing and Systems with extensive experience in the technology sector. Thus, the graduate will have access to a syllabus developed by real experts who will keep them up to date with the tools, techniques and strategies used in the field of Web Application Observability and Resilience. Likewise, thanks to its proximity, the graduate will be able to solve any doubts they may have about the content of this Postgraduate Certificate.

Solve any doubts you may have about the content of this Postgraduate Certificate thanks to the proximity of the computer science professors who are part of it"

Management

Dr. Pantaleón García del Valle, Eduardo

- Solutions Architect at Amazon Web Services (AWS)
- Solutions Architect at Liferay, Inc
- Technical Manager at Jungheinrich AG
- Senior Software Engineer and Team Manager at Liferay
- Project Manager at Protecmedia
- Organization and delivery of online technical webinars within the AWS Customer Proficiency Plan program
- Member of the Alumni Mentoring program at Carlos III University of Madrid, for career advice to students and recent graduates
- Graduated in Telecommunication Engineering from Carlos III University of Madrid
- PhD in Software, Systems and Computing from the Polytechnic University of Madrid
- Master's Degree in Computer Languages and Systems from the National University of Distance Education (UNED)
- Executive Data Science Specialization from Johns Hopkins University

04
Structure and Content

This academic institution provides students with a wide variety of pedagogical resources, such as detailed videos, video summaries of each topic, specialized readings and case studies, which will facilitate learning. In this dynamic and visual way, students will learn about log storage and analysis, metrics monitoring, high availability architectures and all the strategies used to resolve incidents. In this way, students will achieve a complete learning process that will increase their professional possibilities within the sector.

An expertly developed syllabus and high quality content are critical to the success of your learning process"

Module 1. Web Application Observability and Resilience

1.1. Site Reliability Engineering (SRE)
    1.1.1. Development of observable and resilient applications
    1.1.2. Capacity planning
    1.1.3. SRE and DevOps collaboration

1.2. Application registrations
    1.2.1. Log levels and structures
    1.2.2. Log storage and analysis
    1.2.3. Logging frameworks and tools

1.3. Request traces
    1.3.1. Application instrumentation
    1.3.2. End-to-end traceability: trace ID
    1.3.3. Frameworks and tools for traces

1.4. Metrics monitoring
    1.4.1. Types of Metrics
    1.4.2. Metrics storage and analysis
    1.4.3. Frameworks and tools for metrics

1.5. Incident response
    1.5.1. Alerts and notifications
    1.5.2. Dashboards and reports
    1.5.3. Process Automation

1.6. Fault Tolerant Application Design
    1.6.1. Detection of failure points and health-checks
    1.6.2. Detection of failure points and health-checks
    1.6.3. Graceful degradation

1.7. High Availability Architectures
    1.7.1. Load balancing
    1.7.2. Horizontal and vertical scalability
    1.7.3. Downtime-free upgrades

1.8. Data backup and recovery
    1.8.1. Data backup and retention policies
    1.8.2. Backup mechanisms
    1.8.3. Recovery options

This academic training will allow you to deepen your knowledge of Site Reliability Engineering (SRE) through high quality multimedia didactic materials"

05
Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

"
Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world"

You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.

A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

> *Our program prepares you to face new challenges in uncertain environments and achieve success in your career"*

The case method has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, students will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

The student will learn to solve complex situations in real business environments through collaborative activities and real cases.

Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

> *In 2019, we obtained the best learning results of all online universities in the world.*

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically. This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.

This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

Practising Skills and Abilities

They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.

30%

10%

8%

20%

25%

4%

3%
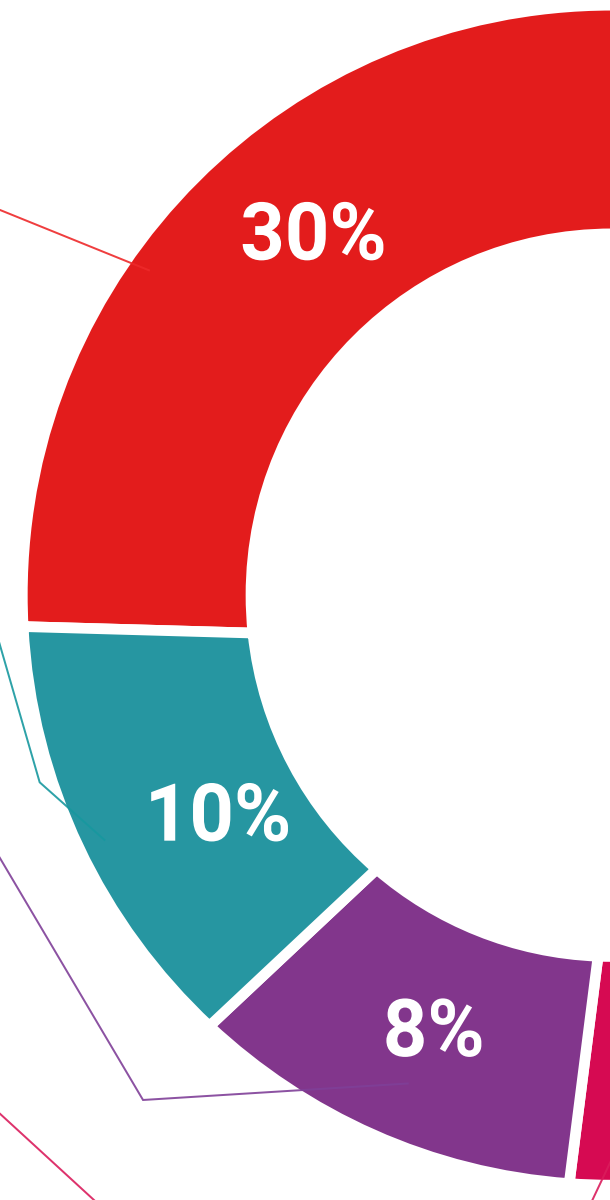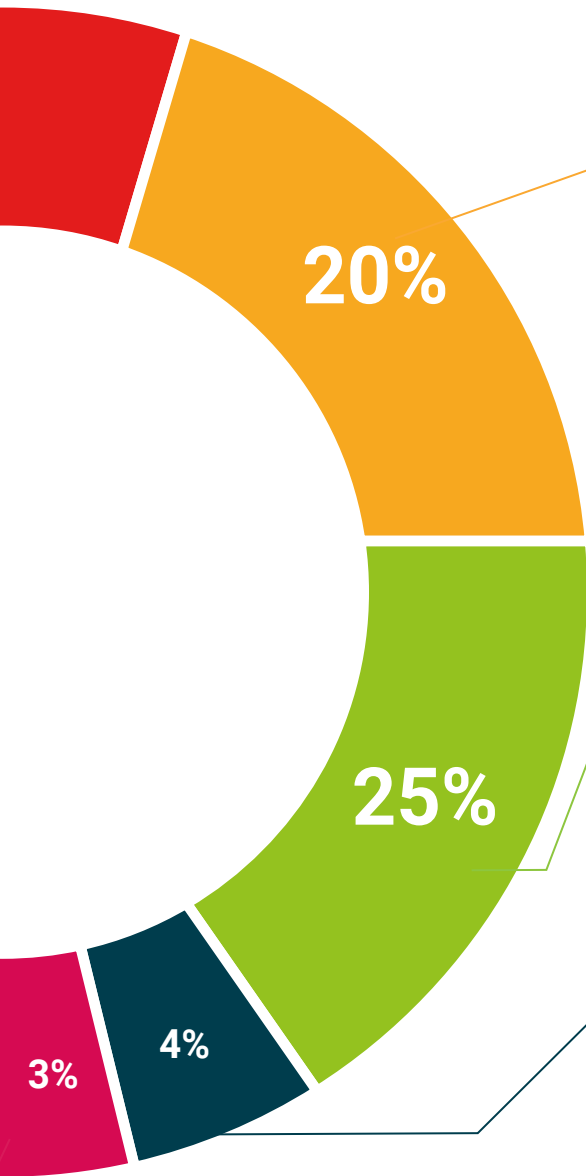
Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

06
Certificate

The Postgraduate Certificate in Web Application Observability and Resilience students, in addition to the most rigorous and up-to-date education, access to a qualification issued by TECH Technological University.

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"*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork*"

This **Postgraduate Certificate in Web Application Observability and Resilience** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Web Application Observability and Resilience**
Official Nº of Hours: **150 h.**

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Awards the following
CERTIFICATE
to
Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE
in

Web Application Observability and Resilience

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

Unique TECH Code: AFWORD23S   techtitute.com/certificates

*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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