

Internship Program

Software Development

```
of(*group_i  
ps = gidsetsize;  
ocks = nblocks;  
group_info->usage, 1);  
etsize <= NGROUPS_SMALL)  
group_info->blocks[0] = group  
{  
for (i = 0; i < nblocks; i++)  
gid_t *b;  
b = (void *) __get_free_  
if (!b)  
goto out_undo_par  
group_info->blocks[i] =  
}  
}  
return group_info;  
undo_partial_block;  
while (--i >= 0) {  
free_page(group_info->group  
}  
kfree(group_info);  
return NULL;
```



tech technological
university

Internship Program
Software Development

Index

01

Introduction

p. 4

02

Why Study an Internship Program?

p. 6

03

Objectives

p. 8

04

Educational Plan

p. 10

05

Where Can I Do the Internship Program?

p. 12

06

General Conditions

p. 14

07

Certificate

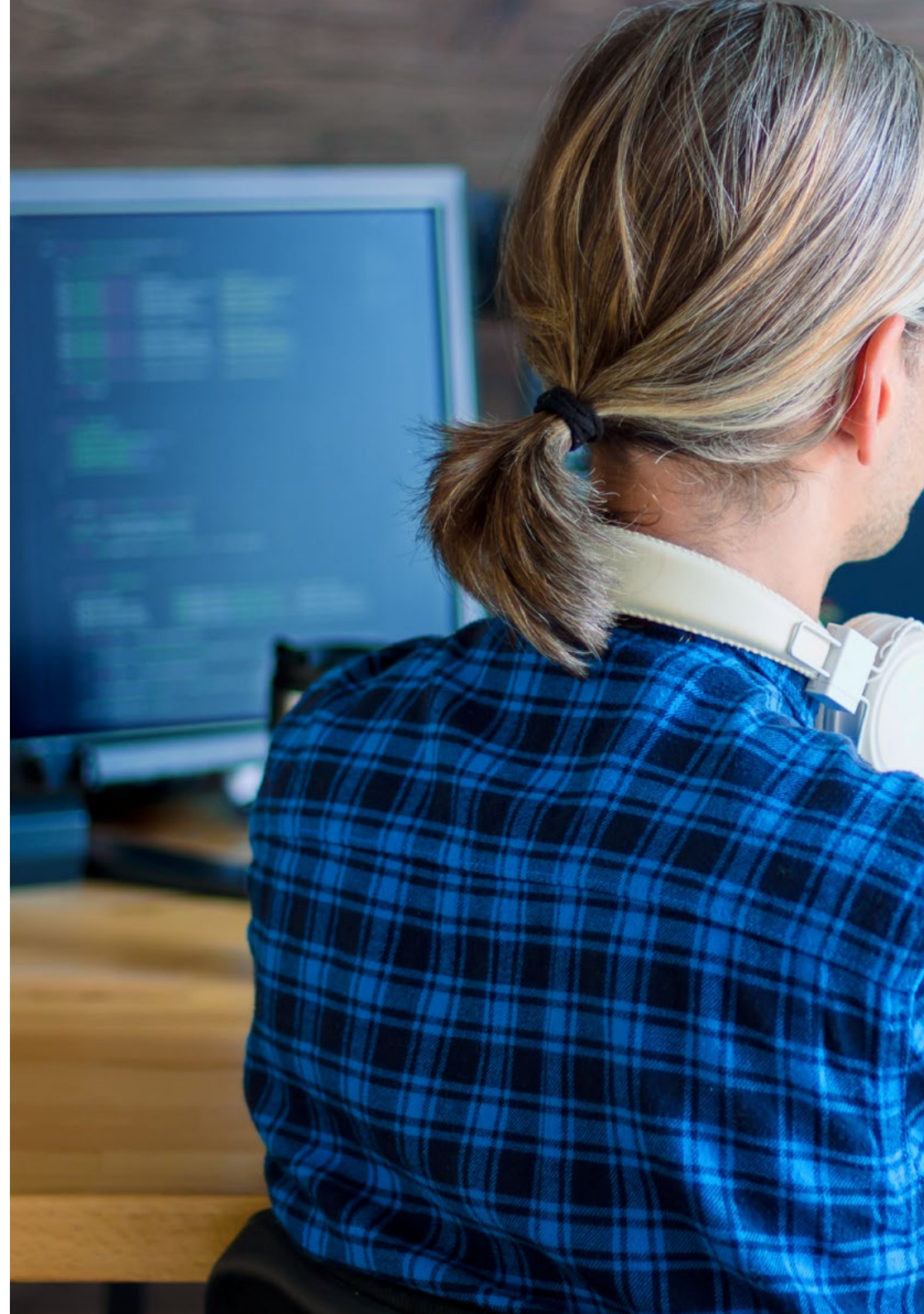
p. 16

01 Introduction

With the accelerated adoption of emerging technologies and the increasing complexity of applications, Software Development has become a dynamic and crucial field for technological innovation. In this context, IT professionals must be equipped with the most advanced knowledge and skills in areas such as software design and quality assurance techniques. Only in this way will professionals be able to create solutions that respond effectively to market needs. For this reason, TECH has created this university program, in which, during 3 weeks, students will join a reference company in this field to get up to date with the latest advances in Software Engineering.



Through this Internship Program, you will master the most advanced methodologies to improve flexibility and responsiveness in Software Development projects”





Software Development constitutes a fundamental pillar in today's digital era, driving innovation and efficiency in multiple industries. So much so that a report by the International Data Corporation forecasts that global spending on technologies in this area will exceed \$1.7 trillion by next year. This highlights the growing importance of robust programs in the global economy. Faced with this, IT professionals need to update their knowledge to handle the most cutting-edge technological tools to optimize their projects.

In order to support developers in this task, TECH launches an Internship Program in Software Development, consisting of a 120-hour on-site stay. Therefore, for weeks, the graduates will join a work team made up of real professionals in this area. Together with these experts, students will actively work on tasks such as database design, the creation of advanced algorithms or the construction of user interfaces. This will enable the graduates to acquire a wide range of skills to optimize their routine procedures and provide top-quality services.

Moreover, during the course of this practical stay, the graduates will be supported by an assistant tutor who will be in charge of guiding them and answering any questions they may have. Thanks to this, students will enjoy a successful learning experience that will serve to expand their professional prospects. Along the same lines, students will be highly prepared to make the leap to the most prestigious technological institutions and offer the most efficient IT solutions.

02

Why Study an Internship Program?

Software Development has become a highly demanded field by companies, due to the digital transformation of organizations and the growth of the technology industry. To take advantage of this opportunity, IT professionals must stay at the forefront of advances in subjects such as Network Application Development. To help them with this task, TECH has designed a unique and disruptive academic product in the current pedagogical landscape, which will allow specialists to enter a real working environment where they can put into practice the latest procedures and techniques in Software Development. During 3 intensive weeks, you will be integrated in a multidisciplinary work team, where you will handle the most modern tools for the software process (among which the Scrum methodology stands out). Undoubtedly, a unique opportunity for students to enjoy learning with real utility and adapted to the needs of today's labor market.



TECH offers you the opportunity to enter a prestigious company to delve, with the help of the best experts, the latest trends in Software Engineering”

1. Updating from the latest technology available

The field of Software Development has evolved significantly in recent years thanks to the implementation of new technologies. For example, the Scrum methodology allows shorter and more frequent development cycles, facilitating the adaptation to changes. Aware of this, TECH presents this Internship Program, which will bring students closer to the latest technological tools in this IT field.

2. Gaining in-depth knowledge from the experience of top specialists

During the practical period, graduates will enjoy the support of a team of highly specialized professionals in Software Development. These experts will help students to make the most of their stay at the institution, while at the same time transmitting the latest advances in areas such as Iterative Program Verification. In the same vein, a specifically appointed tutor will guide the students during this Internship Program and provide them with personalized advice to ensure the success of their update.

3. Entering first-class professional environments

Loyal to its philosophy of providing high quality university programs, TECH rigorously selects the companies where its students will carry out this Internship Program. Thanks to this, graduates will have access to prestigious institutions to expand their knowledge in Software Development. There they will have at their disposal the technological tools required to carry out their work with maximum efficiency.



4. Putting the acquired knowledge into daily practice from the very first moment

TECH develops its university programs bearing in mind the demands and requirements of today's labor market. For this reason, it offers computer scientists a 100% practical learning model, which will allow them to apply their theoretical knowledge in practical and real situations. In this way, students will develop advanced skills that will allow them to experience a significant leap in quality in their profession.

5. Expanding the boundaries of knowledge

TECH has made a great effort so that this Internship Program can be carried out in various international reference institutions. This allows the specialists to expand their frontiers and get up to date in Software Development with the best professionals in this sector. Therefore, graduates will acquire skills that will allow them to stand out in a field highly demanded by technology and digital companies.



You will have full practical immersion at the center of your choice"

03 Objectives

Thanks to this university program, computer scientists will have a comprehensive knowledge of the principles and methodologies required to develop high quality software. Likewise, graduates will acquire advanced skills to develop robust and scalable architectures for complex systems. Likewise, students will implement in their daily practice the most innovative strategies to ensure the quality of the programs.



General Objectives

- ♦ To provide a scientific and technological education, as well as to prepare for the professional practice of software engineering, all with a transversal and versatile training adapted to new technologies and innovations in this field
- ♦ Obtain wide knowledge in the field of software engineering, but also in the field of computation and computer structure, including the mathematical, statistical and physical basis essential in engineering





Specific Objectives

- ♦ Learn to design and interpret algorithms, which are the necessary basis for developing computer programs
- ♦ Learn the basic concepts of the C++ programming language, one of the most widely used languages in the world
- ♦ Understand the operation of advanced data structures other than the usual ones
- ♦ Know the theory and practice related to the use of priority heaps and queues
- ♦ Learn the main strategies for algorithm design, as well as the different methods and measures for algorithm computation
- ♦ Understand the operation of Greedy algorithms, their strategy and examples of their use in the main known problems
- ♦ Understand the Backtracking technique and its main uses, as well as other alternative techniques
- ♦ Design databases using the entity-relationship model, how to create diagrams and the characteristics of the extended E-R model
- ♦ Learn the use of XML and databases for the web
- ♦ Acquire knowledge related to non-relational databases and data mining
- ♦ Understand the operation of combinatorial optimization, as well as the different randomization algorithms and parallel algorithms
- ♦ Learn the operation of some of the main numerical methods such as the bisection method, the Newton Raphson method and the secant method
- ♦ Learn the process of interface design, from requirements analysis to evaluation, going through the different intermediate stages necessary to carry out an adequate interface
- ♦ Understand the different methods of interaction with the computer, by means of peripherals and devices
- ♦ Learn how to manage the use of threads and synchronization, as well as the resolution of common problems within Concurrent Programming
- ♦ Understand the importance of documentation and testing in software development
- ♦ Learn how to use the browser-oriented programming language JavaScript, and some of its main features
- ♦ Know the service-oriented architecture and the basics of the HTTP protocol
- ♦ Understand requirements engineering, their development, elaboration, negotiation and validation
- ♦ Know the main standards related to software quality and project management

04 Educational Plan

The Internship Program of this program in Software Development consists of a practical internship in a prestigious institution, lasting 3 weeks, from Monday to Friday with 8 consecutive hours of practical training with an associate specialist. This experience will allow graduates to join a multidisciplinary work team, where they will participate in the construction of advanced web programs and network applications, among others.

In this program proposal, of a completely practical nature, the activities are aimed at developing and perfecting the skills necessary for the provision of Software Development services and conditions that require a high level of qualification, and which are oriented towards specific training for the exercise of the activity.

This is an ideal opportunity for students to learn by working in one of the most renowned IT institutions, where they will be accompanied by a group of specialists in the field of Software Development. These experts will transmit to the graduates the latest advances in subjects such as Relational Database Design and algorithm creation strategies.

The practical teaching will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other training partners that facilitate teamwork and multidisciplinary integration as transversal competencies for the praxis of Software Development (learning to be and learning to relate).



The procedures described below will be the basis of the practical part of the program, and their implementation will be subject to the center's own availability and workload, the proposed activities being the following:

Module	Practical Activity
Data Architecture	Create new data structures that are efficient and suitable for solving specific problems
	Implement basic data structures such as pulses, queues, trees, graphs, etc.
	Evaluate the time complexity of different algorithm structures
	Realize efficient database schemas employing data systems that optimize storage and retrieval
Algorithm Techniques	Design algorithms in different programming languages
	Use advanced techniques such as Dynamic Programming and Graph Algorithms
	Develop algorithms that minimize the use of computational resources such as memory and CPU time
	Test algorithms to verify their correct operation in different scenarios and with different datasets
Data Storage Systems	Configure databases in management systems such as MySQL, PostgreSQL, etc.
	Use monitoring tools to monitor database performance to ensure database reliability and availability
	Implement access controls and security policies in order to protect data from unauthorized access
	Execute database migration from one environment to another (e.g. from a local database to one in the cloud)
Software Development	Carry out system architecture, including division into modules and specification of interfaces
	Develop detailed designs of each component or module of the system, including UML diagrams and technical specifications
	Perform unit tests to verify the correct functioning of individual code modules
	Identify and correct bugs in the software after deployment, to implement new functionalities or enhancements

05 Where Can I Do the Internship Program?

In line with its commitment to offer the highest quality education available to everyone, TECH expands its academic horizons for students so that this Internship Program can be taught in different entities of international prestige. In this way, graduates have an ideal opportunity to experience a professional quality leap with the best specialists in the field of Software Development.

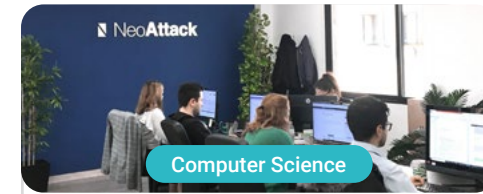


You will carry out your practical stay in a company of maximum reference, where you will apply everything you have learned from the best experts in the sector”





The student will be able to do this program at the following centers:



NeoAttack

Country	City
Spain	Madrid

Address: Calle Santa Engracia 151,
Planta 1, 1, Madrid

NeoAttack leads the market in carrying out SEO and advertising strategies.

Related internship programs:

- Graphic Design
- Software Development



Captia Ingeniería

Country	City
Spain	Madrid

Address: Av. de las Nieves, 37, Bloque A Planta 1
Oficina E, 28935, Móstoles, Madrid

IT company dedicated to providing advanced technological solutions to industries.

Related internship programs:

- Visual Analytics and Big Data
- Software Development

06 General Conditions

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the students and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

1. TUTOR: During the Internship Program, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor, whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Internship Program will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: The Internship Program shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Internship Program will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

07 Certificate

This **Internship Program in Software Development** contains the most complete and up-to-date program in the professional and academic landscape.

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

The diploma issued by TECH will reflect the grade obtained in the test.

Title: **Internship Program in Software Development**

Duration: **3 weeks**

Attendance: **Monday to Friday, 8-hour consecutive shifts**



future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present quality
online training
development languages
classroom

tech technological
university

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