

BTS SIO
Description of professional skills
Specialty: Software Solutions and Business Applications

BTS SIO 1st year

SYSTEME

- **Windows** and **Linux** Operating Systems
- Administration of an operating system (security, backup, etc.)
- Implementation of **virtualization**

NETWORK

- Knowledge of network equipment
- Addressing a Network
- **Network Services** (DNS, DHCP, Web, Database)

DATABASE

- Designing a Database **Relational Logic Schema**
- **SQL** language
- Operating an **SQL Server** database, **MySQL**

WEB DEVELOPMENT

- Website creation languages: **HTML, CSS, JavaScript, JQuery, PHP**
- **CSS framework: Bootstrap**
- Database Management System: **MySQL, SQL Server**

ANALYSIS AND OPERATION OF A DATABASE

- Data Models (**Conceptual, Relational, Physical**)
- Modeling software (AGL **Win'design**)
- Data access with **C#**

SUBJECT PROGRAMMING

- Class **design**
- **Object** applications in **PHP, Java, C#**
- **MVC Model** (Model, View, Controller)

ENVIRONMENT

- IDE: **NetBeans, Eclipse, Visual Studio and Visual Studio Code**
- Methodology: **Merise, UML, AGILE (SCRUM)**
- Servers: **WampServer, EasyPHP, SQL Server**

CYBERSECURITY

- Protecting personal data
- Preserve the digital identity of the organization
- Secure equipment and user usage
- Ensure availability, integrity and confidentiality of services

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BTS SIO 2nd year

The courses and projects in the second year resume and deepen:

- **Methods** of computerisation.
- The **programming of databases**.
- The **methodology** and **development object**.

CLIENT/SERVER

- Advanced Data Modeling
- Client/server programming (**triggers, stored procedures, functions, cursors, transactions**) with **SQL Server**
- Interface and data access: **Laravel framework**

WEB SERVICES

- Description of **Services**
- Programming of **service** methods
- Programming of method **calls**

MOBILE DEVELOPMENT

- **Mobile** programming: **Android** under **Java**
- Development environment: **Eclipse** Android, **Android Studio**
- Local data access: **SQLite**

ORGANISATION AND MANAGEMENT

- Documentation: **specifications, technical file, user guide**
- **Project** and **Business Management**
- **Software quality**: development rules
- **Test** Management
- Computer Parks Manager (**GLPI**)
- **Configuration** and **Incident** Management
- **Technology Watch**

CYBERSECURITY

- Cyber security of application development
- Ensure the cybersecurity of an application solution