

IT-Security

26HS

Programme	BSc in Business Information Technology
Degree	Bachelor
ECTS	5
Module type	mandatory module
Module coordinator	Dr. Swantje Westpfahl
Compulsory attendance	Attendance is expected!
Leading principle / Short description	Digitization places new demands on the management of information technology (IT). Since IT is of central importance in all sectors and industries, the security of IT and the associated systems and data is of utmost relevance. IT security risks must be identified, evaluated and mitigated. There are numerous solutions for this. In this module, students acquire knowledge about potential risks and associated approaches to manage these risks. Basic concepts for the protection of IT systems and data as well as selected techniques for practical implementation are taught.
Module content	<p>Basics: terminology around IT security (IT security)</p> <ul style="list-style-type: none"> o IT risks identification, evaluation, potential protective measures and monitoring o Standards and Best Practices: selected IT Security Standards e.g., ISO27k, BSI, COBIT, NIST o Cryptology: encryption (asymmetric / symmetric), RSA encryption, digital certificates o How to secure: networks, apps, and AI o Practice: different perspectives (and roles) of the practice.
Competencies to be achieved	<p>Knowledge and Understanding: <i>Students ...</i></p> <ul style="list-style-type: none"> o are able to understand IT security as a holistic task of the entire company workforce ("awareness") o know typical risks on organizational, system and network levels ("IT Security Management") o know essential information security protection goals ("IT Security Principles") o know selected IT security standards and practices and can explain their special features and differences ("IT Security Practices") o understand theoretical security concepts such as the basics of cryptography, in particular symmetric and asymmetric encryption ("IT Security Crypto") o know the IT Security practice from different perspectives ("IT Security in Practice"). <p>Applying Knowledge and Understanding: <i>Students ...</i></p> <ul style="list-style-type: none"> o are able to experience selected risk scenarios and their handling in a laboratorylike "setting", e.g. secure web applications, public key infrastructures o defense concepts such as access management, Intrusion Detection Systems (IDS) and System Hardening. <p>Making Judgements: <i>Students ...</i></p> <ul style="list-style-type: none"> o (Obj. 1.2) o implement (with support) selected IT security processes. o are able to assess risk scenarios and their effects; distinguish selected standards and practices from each other and assess their strengths and weaknesses <p>Communications Skills: <i>Students ...</i></p> <ul style="list-style-type: none"> o are able to provide information on IT-related security risks and their mitigation and provide management with some expertise. <p>Learning Skills: <i>Students ...</i></p> <ul style="list-style-type: none"> o can familiarize themselves with the basics of IT security with the help of provided learning materials and tasks. o learn how to stay up-to-date related to Cybersecurity trends and news.
Prerequisites	Introduction to Business Information Technology
Teaching and learning methods	Contact Hours !in person!: attendance highly recommended Lecture, Interactive instruction, Group Work, Presentation, Simulation
Literature	<p>Required Reading: See provided material on Moodle</p> <p>Recommended Reading: See provided material on Moodle</p>

**Grading
Assessment**

Grade 1-6 (half grades)

Exam 100%

Oral / Written

Written

Duration (min)

90

Timeframe

End of semester (exam period)

Grading Scale

Points

Module details**IT-Security (BITPT24) - Fri - Windisch**

Time	8:15 AM - 12:00 PM
Language	Englisch
Periodicity	Weekly
Lecturers	Dr. Swantje Westpfahl
Number	1-26HS.W-B-BIT-050407S1.SN/PT24

IT-Security (BITPT 24) - Mon - Basel

Time	1:15 PM - 5:00 PM
Language	Englisch
Max. participants	64
Periodicity	Weekly
Lecturers	Dr. Swantje Westpfahl
Number	2-26HS.W-B-BITPT-050407S1.SN/PT24

