Sample elective modules

10 modules 500 hours

Being a student of Collegium Da Vinci, you have an influence on what you will study. In addition to the compulsory set of study-programme modules and interdisciplinary modules, your study programme will also consist of elective modules. These are modules that you choose yourself. You select up to 10 modules from dozens of subjects - both in disciplines directly related to your field of study and interdisciplinary.

Remember: each academic year the list of available modules is slightly different. We modify it for our students, responding to the popularity of their chosen subjects and changing market trends.

Important: students of this programme have not yet made their module selections. To show you what this might look like, we have prepared a sample set of modules related to the programme.

Elective modules – course modules

Name	Availability in the mode	Description
Advanced artificial intelligence	full-time	Advanced Artificial Intelligence will guide the student through the practical issues, methods and techniques used in modern systems-based learning algorithms, ranging from pragmatic conventional machine learning to large language models and deep generative networks.
Advanced mobile application development	full-time	This course focuses on advanced techniques in mobile application development, including performance optimization, app security, and leveraging the latest technologies and development tools.
Advanced object oriented programming	full-time	This module covers advanced object-oriented programming techniques, including asynchronous programming and Dependency Injection. It introduces basic design patterns for creating ‘clean’ application architectures. Students will also learn to develop Windows applications, utilizing server-side services (REST, JSON) and database services (Entity Framework).

Name	Availability in the mode	Description
Basics of accelerating applications with NVIDIA CUDA in C/C++	full-time	The course will present the basic features of the NVIDIA CUDA compute platform and how we can leverage its capabilities to accelerate applications, especially compute-heavy applications, by writing C or C++ code that will be run directly on the GPU.
Boardoom Global Challenge	full-time	Boardroom Global Challenge is designed to place students in realistic business and management scenarios. The basis of the class is a web and turn-based business simulation on the management level. The simulation covers supply chain, finance, pricing, investment and marketing decision-making.
Building single page applications	full-time	The module is devoted to the development of modern web applications in SPA (Single Page Application) architecture.
Concurrent programming	full-time	The module covers the issues of handling and coordinating concurrent processes and threads using synchronisation mechanisms at the level of computer system architecture, operating system and in selected high-level programming languages (e.g. Java, C++, Go).
Content management system	full-time	A module providing students with the opportunity to learn how to create effective websites on their own using effective tools such as content management systems (CMS). At the same time, it does not require learning advanced programming languages.
Digital immersion	full-time	The module focuses on designing information systems considering human perceptual and cognitive abilities, and human-computer interaction across various media (sight, hearing, touch). It also covers customer analysis from the perspective of computer communication.
Excel 365 for programmers and analysts	full-time	Forget Excel as an office suite. Excel 365 gives users extensive data collection and automatic processing capabilities. Learn advanced tools like Power Query, Data Modeler, Power pivot. Build relationships and work like a database. Learn how to automate tasks using VBA, learn the elements of M language and DAX.

Name	Availability in the mode	Description
IT Project management	full-time	The module aims to teach students IT project management methods, including creating project schedules (WBS, network, and bar charts), designing time buffers, monitoring progress, and conducting risk analysis. Students will work in teams to prepare project schedules using Microsoft Project and/or ProjectLibre, focusing on team organization and communication in problem-solving.
Modern advanced JavaScript/ TypeScript	full-time	The course will present the basic features of the NVIDIA CUDA compute platform and how we can leverage its capabilities to accelerate applications, especially compute-heavy applications, by writing C or C++ code that will be run directly on the GPU.
Music in video games	full-time	The first part of the module introduces music through the composer's perspective, covering the basics of music theory and game music composition. Students will create their own musical compositions that meet game implementation requirements. The course also covers game soundtracking, with a focus on the musical layer. Using their composition, students will learn responsive soundtrack implementation techniques using FMOD Studio and Unity.
Symfony framework: from scratch to REST API	full-time	The module aims to introduce the Symfony framework - ranging from basic use, where students will be guided through entities, controllers, templates, migrations, perform basic refactoring, use the query builder, to query construction, use multimedia in the application.
The Modelling Toolbox	full-time	Modeling is part of daily life, from calculating loans to corporate financial models. This course covers key mathematical concepts and data-related activities in business, such as decision-making, budgeting, cashflow analysis, and forecasting using regression. Students will complete activities in MS Excel, with some coding in VBA & R, focusing on designing and using models for business applications.
UX/UI - design process of digital products	full-time	The process of designing digital products (websites, applications).

Elective modules – interdisciplinary modules

Name	Availability in the mode	Description
IT Project management	elearning	Students will learn who is Project Manager and what kind of challenges they would solve if they chose this course. They will learn the best practices and understand the whole process of delivering software projects.
Consumer Decision-Making Psychology	elearning	This module provides insights into the psychology of decision-making, equipping you with tools to enhance choices in both professional and personal contexts. It enables you to understand customer behavior and explore the limitations of rationality that affect decision-making processes. Ultimately, you will learn to apply these insights effectively, improving your overall decision-making skills.