



Engineering studies in IT - międzynarodowy program studiów  
prowadzonych przez Wydział Matematyki i Informatyki UAM w Poznaniu  
Nr projektu POWR.03.03.00-IP.08-00-MPK/16

---

## INTERNET TECHNOLOGIES

### Learning module description

#### GENERAL INFORMATION

1. Module title: Internet technologies
2. Module code: DTIN LI0-E
3. Term: summer
4. Duration: 30h laboratories
5. ECTS: 3
6. Module lecturer: Patryk Żywica
7. E-mail: bikol@amu.edu.pl
8. Language: English

#### DETAILED INFORMATION

1. Module aim is to familiarize students with basic notions and concepts related to the use of the Internet. In this course students will learn basic Internet protocols, useful tools, learn the basics of HTML, CSS and PHP. They will also learn how to protect themselves and their websites from basic attacks as well as how to use encryption methods.
2. Pre-requisites in terms of knowledge, skills and social competences (where relevant):  
Knowledge of basic programming constructs and implementation of algorithms. Ability to work with supplementary materials, to independently acquire information and to draw conclusions.

#### SYLLABUS:

- Week 1: Basic notions: Internet, domain, DNS, service, protocol, Internet Service Provider.  
Week 2: E-mail: protocols, properties, operations, security, encryption and signatures (PGP), Service Providers, next generation services – ProtonMail.  
Week 3: Web sites: types: static and dynamic, page components, HTTP protocol. Creating websites: HTML and CSS.  
Week 4: Dynamic web pages: PHP.  
Week 5: Single Page Application (SPA).  
Week 6: Single Page Application (SPA) (cont.)  
Week 7: Development and publishing web pages: hosting, security, SEO, commercial aspects, Google Analytics.  
Week 8: Content Management Systems (CMS).  
Week 9: Content Management Systems (CMS) (cont.).  
Week 10: Security of web pages - HTTPS protocol.  
Week 11: Privacy and security in Internet, VPN.  
Week 12: Data transfer over the Internet: client-server architecture, MVC, webservice.  
Week 13: Integration with external services: LDAP, sign in with remote service, OAuth, FB integration.  
Week 14: Cloud: infrastructure as a service model.  
Week 15: Cloud: infrastructure as a service model (cont.).