

LETTER OF OFFER – CYBERSECURITY PROGRAMME 2024/2025

Issued by:

Masaryk University, Faculty of Informatics

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Represented by: prof. RNDr. Jiří Barnat, Ph.D., Dean

Contact person:

(hereinafter referred to as “FI MU”)

and addressed to:

Foreign Training, HQ IDS

Room No. 1248

Hotel Ashoka

Chanakyapuri, New Delhi-110021

India

Represented by: Col KMN Kuttappa, Colonel, Foreign Training, HQ IDS.

Contact person:

(hereinafter referred to as “CFT”)

hereinafter jointly referred to as the “**parties**” and individually also as a “**party**”

I.

Subject of the Offer

1. The subject of this Offer is the participation of CFT nominated candidates in the “Special Long Term Programme in Cybersecurity”, which is at the FI MU side fully recognized and accredited as the Master of Science (Magistr) programme in Computer Systems, Communication and Security, with the specialization in information security. Hereinafter, the programme shall be referred to as Full Programme.
2. FI MU agrees to provide high quality training specified in the Article II of this Offer.

II.

Programme Courses

1. Content of the Full Programme

- *PV079 Applied Cryptography*: This course explores the issues of cryptography deployment issues, standards and applications. The course enhances students' working experience with up-to-date cryptosystems, and enables them to deploy cryptography effectively.
- *IA174 Fundamentals of Cryptography*: The course covers theoretical foundations of cryptography, ranging from encryption and hashing primitives to more modern topics such as blockchain technologies. Students will learn why are the state-of-the-art cryptographic algorithms constructed in the way they are, and how to reason about their mechanics and security guarantees via the language of mathematics.

- *PV181 Laboratory of security and applied cryptography:* The aim of this lab course is to understand implementation details of cryptographic algorithms and protocols and be able to apply the gained knowledge in practice. At the end of the course students should be able to design and implement cryptographic applications independently, and possibly also with support of smartcards.
- *PA168 Postgraduate seminar on IT security and cryptography:* The seminar participants will discuss a broad range of topics in IT security and cryptography in a greater depth. PhD and Master's students undertaking research in these and closely related areas are expected to report on their work.
- *PA192 Secure hardware-based system design:* The course is focused on architectures of secure digital systems, to ensure reliability, dependability and security of digital systems, assess and learn how to design safe and reliable digital systems. An important part of the course is to familiarize students with the principles and techniques of secure programming in language C and design of secure embedded systems. Course will present common problems and design of secure digital systems on real-world examples.
- *PA193 Secure coding principles and practices:* Language level vulnerabilities, secure programming techniques and approaches, input processing, code checking, security testing, integrity of modules, concurrent issues, random number generation and usage, security primitives, security code review.
- *PV204 Security Technologies:* The aim of this subject is to understand details of smart cards security, secure authentication and authorization, security of hardware modules, trusted boot, analysis of malware and rootkits (both black-box and gray-box), reverse engineering of binary applications, multilevel security and file/disk encryption. Student should be able to apply the gained knowledge in a practice based on experience gained from laboratory a project work.
- *IA169 System Verification and Assurance:* This course will provide the necessary theoretic background as well as hands-on experience with relevant tools for bug finding and formal verification techniques. An introductory insight into security standards like Common Criteria for Information Technology Security Evaluation and FIPS 140 shall be provided first, together with a discussion of security threat models. Following this, the core topics of this course will include testing, simulations, advance testing and symbolic execution, abstract interpretation, static analysis, theorem proving, automated formal verification as well as an introduction to model-based verification. With the help of a tutor students will get acquainted with a number of concrete software verification tools for analysis of concurrent systems, real-time systems, hybrid systems, cryptographic systems and systems with probabilities.
- *PA197 Secure Network Design:* Basic design requirements and principles (basic network architecture and functions, general requirements on the security and reliability). Network specific faults, threats, and attacks. Security architectures (Secure and resilient routing, secure DNS, secure channels, trusted network access, resilient architectures). Operational security management – how to design and manage reliable networks. Network monitoring and defence mechanisms (firewalls, IDS, netflow). Penetration testing. WiFi networks and security. (Wireless) personal area networks. Wireless Sensor Networks (WSN). Cryptographic aspects of WSN.
- *PA018 Advanced Topics in Information Technology Security:* This advanced-level course reviews selected topics in IT security in a greater depth. Students are expected to work on several assignments and a term project.

- **Elective Courses:**
 - *PV222 Security Architectures*
 - *PV210 Cyber security in an organization*
 - *IA066 Introduction to Quantum Computing*
 - *IA077 Advanced Quantum Information Processing*
- **Other courses**, in order to fulfill requirements of the Master programme Computer Systems, Communication and Security, with the specialization in information security as listed for the current academic year at the webpages of FI MU.
- **Project**
 - Master thesis (every thesis will have a supervisor from one country and advisor from other country). They would return to India in June and work on their Master thesis, submitting early in December with other students in the Master programmes and defending the thesis with the state exam in January or February.

III.

Letter of Offer and Acceptance Letter

1. The Letter of Offer from FI MU is based on a discussion of the Liaison Coordinators (see Section V below), with the following details:
 - a. 3 offered positions for students from CFT in the Full Programme.
 - b. Cost per participant for the Full Programme shall be 300'000 (three-hundred-thousands) Czech korunas, with an agreed discount of 120'000 Czech korunas in total. The total cost is therefore 780'000 Czech korunas.
 - c. Starting date 9/9/2024 and final month of June 2025.
2. The Acceptance Letter must be received within two weeks of the issue date of a given Letter of Offer in order to take effect.
3. Letter of Offer and the corresponding Acceptance Letter based on the Appendix A of this Letter of Offer received within a month of the date of a given Letter of Offer then form a mutual written agreement.

IV.

Price of Work and Payment Conditions

1. The Contracting Parties have agreed that the total price for each run of a designated programme specified in Article II and performed under conditions agreed in this Agreement amounts will be specified in Czech korunas in the amendments set in Article III.
2. The CFT agrees to pay this price upon invoices issued by FI MU. The date of issue of the invoice is also the date of the taxable transaction.
3. The Parties have agreed that an invoice shall be due within 45 days after the date of issue at FI MU, where FI MU guarantees the invoice delivery to the CFT contact address (email and postal addresses) within 15 business days of the invoice issue.
4. The total price agreed in Article III shall be invoiced in two payments. The first payment of half of the total price will be invoiced within one month of the start of the program.

5. The second payment of half the total price will be invoiced within one month of the end of the program completion in June of the specific program run.
6. If CFT shall be in default with the payment of the Price agreed in the Article IV.1, the FI MU shall be entitled to require from CFT the penalty equal to 0,05 % from the due amount for each such day of default.
7. The provision regarding the penalty shall in no way affect the right of the Contracting Parties in respect to indemnity.

V.

Liaison Coordinators

1. Each Party nominates a Liaison coordinator who shall act as a contact person for all matters concerning this Agreement.
2. The Liaison coordinator on behalf of FI MU is XXXXXXXXXXXX, the Liaison coordinator on behalf of CFT is XXXXXXXXXXXX.

VI.

Admission to the courses

1. Candidates will meet the following selection criteria for the Special Long Term programme of FI MU:
 - 1/ Completed Bachelor or Master degree in Computer Science / Computer Engineering / Computer Communications / Mathematics.
 - 2/ Extensive knowledge of Computer Science & Engineering
 - 3/ Basic knowledge of Cryptography and Computer Security
 - 4/ Academic track record, performance and English proficiency.
2. The participating students will be selected and admitted by FI MU on the recommendation of CFT.
3. The deadline for sending in the completed applications for eligible candidates shall be no later than May 20, 2024.
4. FI MU shall inform CFT of its final admission decisions within a month of the application of the candidates being made available to FI MU.
5. Students shall be subject to the rules, regulations and discipline of the FI MU. While registered in the courses within the programmes concerned, they will be registered as students of FI MU.

VII.

Dispute Resolution and Governing Law

1. Any dispute arising out of this Agreement shall be referred for resolution in the first instance to the liaison coordinators referred to in clause V.

2. If the dispute has not been settled sixty days after referral to them or within such other period as the parties may agree in writing, all disputes that may arise in connection with this present Agreement or the breach thereof shall be adjudicated exclusively by the Czech courts.
3. The contracting parties are aware of the requirements under the Czech Act no. 340/2015 Coll., on Special Conditions for Effectiveness of Some Contracts, Disclosure of These Contracts and on Registry of Contracts (Registry of Contracts Act), and if it is necessary according to this Act to publish this agreement, the contracting parties agree with its publication in the registry of contracts, as well as with the publication of any agreements (amendments), which supplement, change, replace or cancel this agreement. The contracting parties agree that the publication of the agreement in accordance with the above-mentioned Act is ensured by FI MU.

VIII. Final provisions

1. The Parties declare that the laws of the Czech Republic are applicable to this Letter of Offer and the resulting agreement and to the legal relationship between the Parties resulting from it.

**Masaryk University,
Faculty of Informatics**

In Brno on 17. 5. 2024

prof. RNDr. Jiří Barnat, Ph.D.,
Dean

**Appendix A: ACCEPTANCE LETTER– CYBERSECURITY PROGRAMME
2024/2025**

On behalf of CFT and with respect to the “LETTER OF OFFER – CYBERSECURITY PROGRAMME 2024/2025”, from Masaryk University, Faculty of Informatics, dated May 17, 2024, I hereby confirm acceptance of the proposal from the Letter of Offer regarding the training in the “Special Long Term Programme in Cybersecurity” and confirm that the conditions as stated in that Letter of Offer are accepted on our side without any modifications.

Foreign Training, HQ IDS (CFT)
Room No. 1248
Hotel Ashoka
Chanakyapuri, New Delhi-110021
India

In New Delhi on _____

Col KMN Kuttappa