

MINISTRY OF EDUCATION AND TRAINING  
**QUY NHON UNIVERSITY**



## **PROGRAM**

Level of education: **Master's**

Major: **Telecommunications Engineering**

Code: **8520208**

Orientation: **Application-Oriented Program**

Type of education: **Full-time**

*Gia Lai, 2024*

## PROGRAM

*(Issued together with Decision No. /QĐ-ĐHQN dated , December 2024  
of the Rector of Quy Nhon University)*

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## 1. PROGRAM OBJECTIVES

### *1.1. General objectives*

Equip students with advanced research-oriented knowledge, enhancing both theoretical and practical expertise. The program aims to develop independent research capabilities, creativity, and the ability to detect and resolve complex problems within the field of Telecommunications Engineering.

This application-oriented curriculum is designed to meet national standards and elevate the professional qualifications of learners.

### *1.2. Specific objectives (POs)*

Graduates with a Master's in Telecommunications Engineering will possess:

#### *- Regarding Knowledge*

**PO1:** Possess advanced knowledge of social sciences, political science, and law.

**PO2:** Acquire deep professional expertise in the major to effectively adapt to various job positions in the fields of electronics and telecommunications engineering, integrated circuit (IC) design, and Artificial Intelligence (AI).

**PO3:** Gain specialized knowledge in analyzing, operating, and evaluating a system or a component within electronic and telecommunication systems, embedded systems and IoT, and AI systems to meet practical work requirements.

#### *- Regarding Skills*

**PO4:** Possess communication skills, teamwork skills, and critical thinking to work effectively in multidisciplinary environments.

**PO5:** Demonstrate professional skills, information technology proficiency, and foreign

language competence in professional activities.

**PO6:** Possess skills in self-research, analysis, and solving practical problems; have the ability to formulate ideas, design, implement, and operate products in the fields of telecommunications engineering, integrated circuit (IC) design, embedded systems and IoT to meet societal development needs.

*- Regarding Autonomy and Responsibility*

**PO7:** Demonstrate a clear awareness of lifelong self-learning and research ; maintain professional ethics and responsibility toward work, the community, and society.

## **2. CAREER OPPORTUNITIES AND FURTHER EDUCATION**

Graduates of the Telecommunications Engineering program are qualified to:

- Work in agencies, companies, corporations, or postal and telecommunications groups.
- Teach at universities, colleges, and professional secondary schools.
- Conduct research at specialized institutes for Electronics, IT, and Communications.
- Pursue further advanced studies in Doctoral (PhD) programs at prestigious domestic and international institutions.

## **3. PROGRAM LEARNING OUTCOMES (PLOs)**

The program is designed to ensure that graduates achieve the following learning outcomes:

### ***3.1. Knowledge***

*+ Fundamental Knowledge*

**PLO1:** Apply fundamental knowledge of political science and law to professional activities and daily life.

**PLO2:** Apply basic principles of electronics and telecommunications to calculations, simulations, and problem-solving within the telecommunications engineering field.

*+ Advanced/Specialized Knowledge*

**PLO3:** Utilize foundational knowledge in electronics and telecommunications to calculate and determine the models and operating characteristics of electronic systems, integrated circuits (IC), telecommunication systems, embedded systems, and IoT.

**PLO4:** Analyze and select specialized expertise in electronics and telecommunications for the calculation, design, and operation of electronic systems, integrated circuits (IC), telecommunication systems, embedded systems, IoT, and artificial intelligence (AI) systems.

### ***3.2. Skills***

*+ General Skills*

**PLO5:** Utilize communication, presentation, and teamwork skills to effectively achieve the objectives set by interdisciplinary groups.

**PLO6:** Effectively apply foreign language and information technology skills in communication and professional activities.

**PLO7:** Integrate knowledge blocks from basic sciences, core engineering, and specialized fields into technical analysis, reasoning, and the resolution of practical problems.

**PLO8:** Apply professional skills in design and experimentation to analyze and solve problems related to telecommunication systems, artificial intelligence, integrated circuits (IC), embedded systems, and IoT.

+ *Professional Skills*

**PLO9:** Analyze and assess design options for electronic systems and products, as well as technical solutions in the fields of electronics, IC design, telecommunications engineering, embedded systems, and IoT.

**PLO10:** Evaluate and select technical solutions for the operation, use, and exploitation of applied electronic systems, telecommunication systems, embedded systems, and IoT.

### ***3.3. Autonomy and Responsibility***

**PLO11:** Strictly adhere to regulations regarding professional ethics and responsibility; maintain discipline, an industrial working style, and a commitment to professional capacity building.

**PLO12:** Establish a habit of updating knowledge and a mindset for lifelong self-learning and research.

## **4. ADMISSION REQUIREMENTS**

- Have graduated or met the conditions for recognition of undergraduate graduation (or equivalent or higher level) in a field compatible with Telecommunications Engineering;
- Possess a foreign language proficiency of Level 3 or above according to the 6-level Foreign Language Proficiency Framework for Vietnam;

***List of Suitable Undergraduate Majors:*** Eligible majors belong to the "Electrical, Electronics, and Telecommunications Engineering Technology" group (Code: 75103) and the "Electrical, Electronics, and Telecommunications Engineering" group (Code: 75202). These groups are defined in the Statistical List of Higher Education Training Majors (*issued with Circular No. 09/2022/TT-BGDĐT dated June 6, 2022, by the Ministry of Education and Training*).

| No | Prospective master's applicant major | Compatible undergraduate majors                           | Note |
|----|--------------------------------------|-----------------------------------------------------------|------|
| 1  | Telecommunications Engineering       | Radar – Navigation Engineering                            |      |
| 2  | Telecommunications Engineering       | Electronics and Telecommunications Engineering            |      |
| 3  | Telecommunications Engineering       | Electronics and Telecommunications Engineering Technology |      |

***List of undergraduate majors requiring knowledge supplementation and corresponding supplementary courses:***

| No | Master's Admission Major       | Major Requiring Knowledge Supplementation                                                                                                                                                                                     | Supplementary Courses                                                                 | Note                                                                   |
|----|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1  | Telecommunications Engineering | Electrical and Electronics Engineering.                                                                                                                                                                                       | - Wireless Communications.<br>- Digital Communications.                               | The Faculty will propose supplementary courses based on specific cases |
| 2  | Telecommunications Engineering | Control Engineering and Automation.                                                                                                                                                                                           |                                                                                       |                                                                        |
| 3  | Telecommunications Engineering | Computer Engineering                                                                                                                                                                                                          |                                                                                       |                                                                        |
| 4  | Telecommunications Engineering | Computer Engineering Technology                                                                                                                                                                                               |                                                                                       |                                                                        |
| 5  | Telecommunications Engineering | Information Technology                                                                                                                                                                                                        |                                                                                       |                                                                        |
| 6  | Telecommunications Engineering | Electrical and Electronic Engineering Technology                                                                                                                                                                              |                                                                                       |                                                                        |
| 7  | Telecommunications Engineering | Biomedical Engineering                                                                                                                                                                                                        |                                                                                       |                                                                        |
| 8  | Telecommunications Engineering | Marine Engineering                                                                                                                                                                                                            |                                                                                       |                                                                        |
| 9  | Telecommunications Engineering | Electrical Engineering                                                                                                                                                                                                        |                                                                                       |                                                                        |
| 10 | Telecommunications Engineering | Remaining majors per the Regulation on the Statistical List of Training Fields in Higher Education ( <i>issued according to Circular No. 09/2022/TT-BGDDT dated June 6, 2022, of the Ministry of Education and Training</i> ) | - Wireless Communications.<br>- Digital Communications.<br>- Antenna and Propagation. |                                                                        |
| 11 | Telecommunications Engineering | <i>Other majors are considered on a case-by-case basis</i>                                                                                                                                                                    |                                                                                       |                                                                        |

## 5. TARGET APPLICANTS

In accordance with the current Master's admission and training regulations of Quy Nhon University and the Ministry of Education and Training.

## 6. TRAINING DURATION AND TOTAL CREDIT LOAD

**6.1. Training Duration:** 2 years (24 months)

**6.2. Total Credit Load:** 60 credits, including 06 internship credits and 09 graduation project (Final Project) credits.

| Program Structure                    | Number of Credits |
|--------------------------------------|-------------------|
| General Knowledge Section            | 3                 |
| Foundation and Specialized Knowledge | 42                |
| Compulsory courses                   | 21                |
| Elective courses                     | 21                |
| Practical Internship                 | 6                 |
| Graduation Final Project Course      | 9                 |
| Total                                | 60                |

## 7. TRAINING PROCESS AND GRADUATION CONDITIONS

### 7.1. Training Process

Training under the credit-based system in compliance with the current regulations of the Ministry of Education and Training and Quy Nhon University

### 7.2. Graduation Conditions

According to the current Regulations on Admission and Master's Level Training of the Ministry of Education and Training and Quy Nhon University:

a) Have completed all courses in the training program and successfully defended the capstone project;

b) Attain the required foreign language proficiency according to the program's learning outcomes prior to the graduation review; this must be evidenced by one of the diplomas or language certificates equivalent to Level 4 of the 6-level Foreign Language Proficiency Framework for Vietnam as specified in the Appendix of the current Regulations on Admission and Master's Level Training of Quy Nhon University, or other equivalent certificates announced by the Ministry of Education and Training; or possess a university degree or higher in a foreign language major, or a university degree or higher in another major where the program was conducted entirely in a foreign language;

c) Fulfill all responsibilities as prescribed by Quy Nhon University; not be subject to criminal prosecution and not be under any period of disciplinary action or academic suspension.

### 7.3. Awarded Degree Title

Vietnamese: BANG THAC SI KY THUAT VIEN THONG

English: THE DEGREE OF MASTER IN TELECOMMUNICATIONS ENGINEERING

## 8. ASSESSMENT METHODS AND GRADING SCALE

### 8.1. Grading Scale

10-point grading scale is used for all assessment forms in each course.

### 8.2. Assessment Forms, Criteria, and Weight

**- Theory courses:**

| No. | Assessment Form              | Assessment Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Assessment Weight |
|-----|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 1   | <b>Continuous Assessment</b> | <ul style="list-style-type: none"> <li>* Attendance assessment: full class attendance.</li> <li>* Students complete an individual test (in written or oral presentation form).</li> <li>- Test assessment criteria: correct answers or requirements as specified in the M4 of the course.</li> <li>* Group reports or major assignments as required by the instructor in charge of the course.</li> <li>- Assessment criteria: content, format, and presentation of reports and major assignments as specified in detail in the M4 of the course.</li> <li>* Essays as required by the instructor in charge of teaching.</li> <li>- Essay assessment criteria: correct answers or requirements as specified in detail in the M4 of the course.</li> </ul> | 40%               |
| 2   | <b>Final Exam</b>            | <p>End-of-course Examination</p> <ul style="list-style-type: none"> <li>* Examination form: Written/Oral.</li> <li>- Exam assessment criteria: according to the answer key or requirements specified in detail in the M4 of the course.</li> <li>** Examination form: Report/reflection paper/essay</li> <li>- Exam assessment criteria: content and format as specified in detail in the M4 of the course.</li> </ul>                                                                                                                                                                                                                                                                                                                                    | 60%               |

**- Professional internship course:** 60% continuous assessment (supervisor at the internship facility); 40% oral report defense (evaluation members appointed by the faculty). Specific criteria are detailed in the course syllabus.

**- Graduation Course (Final Project):** Implemented in accordance with the current Master's admission and training regulations of Quy Nhon University. Specific criteria are detailed in the course syllabus.

## 9. TRAINING PROGRAM

| No | Course Code |     | Course Name | Semester | Course Load |        |                      | Prerequisite Code | Managing Faculty | Note |
|----|-------------|-----|-------------|----------|-------------|--------|----------------------|-------------------|------------------|------|
|    | Letter      | No. |             |          | Total       | Theory | Exercises, Practice, |                   |                  |      |

|                                                         |      |     |                                                       |   |           |   |            |  |                                     |  |
|---------------------------------------------------------|------|-----|-------------------------------------------------------|---|-----------|---|------------|--|-------------------------------------|--|
|                                                         |      |     |                                                       |   |           |   | Experiment |  |                                     |  |
| <b>I. General Knowledge Section</b>                     |      |     |                                                       |   | <b>3</b>  |   |            |  |                                     |  |
| <i>I.1. Philosophy</i>                                  |      |     |                                                       |   | 3         |   |            |  |                                     |  |
| 1                                                       | TNTH | 501 | Philosophy                                            | 1 | 3         | 2 | 1          |  | DPESM                               |  |
| <b>II. Foundation and Specialized Knowledge Section</b> |      |     |                                                       |   | <b>48</b> |   |            |  |                                     |  |
| <i>II.1. Compulsory Section</i>                         |      |     |                                                       |   | <b>21</b> |   |            |  |                                     |  |
| <i>Foundation Knowledge</i>                             |      |     |                                                       |   | <i>12</i> |   |            |  |                                     |  |
| 2                                                       | KVTS | 502 | Advanced Digital Communications Systems               | 1 | 3         | 2 | 1          |  | Faculty of Engineering & Technology |  |
| 3                                                       | KVDD | 503 | Mobile and Wireless Networks                          | 1 | 3         | 2 | 1          |  | Faculty of Engineering & Technology |  |
| 4                                                       | KVXL | 504 | Spatial-Temporal Signal Processing                    | 1 | 3         | 2 | 1          |  | Faculty of Engineering & Technology |  |
| 5                                                       | KVTT | 505 | Information Theory and Coding                         | 1 | 3         | 2 | 1          |  | Faculty of Engineering & Technology |  |
| <i>Specialized Knowledge</i>                            |      |     |                                                       |   | <i>15</i> |   |            |  |                                     |  |
| 6                                                       | KVPT | 506 | Analysis and Design of Wireless Communication Systems | 2 | 3         | 2 | 1          |  | Faculty of Engineering & Technology |  |
| 7                                                       | KVPA | 507 | Numerical Analysis and Design of Antennas             | 2 | 3         | 2 | 1          |  | Faculty of Engineering & Technology |  |
| 8                                                       | KVCD | 508 | Advanced Communication                                | 2 | 3         | 2 | 1          |  | Faculty of Engineering              |  |

|                                                        |      |     |                                                            |   |           |   |   |  |                                              |  |
|--------------------------------------------------------|------|-----|------------------------------------------------------------|---|-----------|---|---|--|----------------------------------------------|--|
|                                                        |      |     | n Systems<br>Topics                                        |   |           |   |   |  | &<br>Technology                              |  |
| <i>II.2. Elective Section</i>                          |      |     |                                                            |   | <b>21</b> |   |   |  |                                              |  |
| <i>Foundation Knowledge (select 12/24 credits)</i>     |      |     |                                                            |   | <b>12</b> |   |   |  |                                              |  |
| 9                                                      | KVTP | 511 | Information<br>Transceiver<br>Systems                      | 1 | 3         | 2 | 1 |  | Faculty of<br>Engineering<br>&<br>Technology |  |
| 10                                                     | KVVT | 512 | Next-<br>Generation<br>Telecommuni-<br>cations<br>Networks | 2 | 3         | 2 | 1 |  | Faculty of<br>Engineering<br>&<br>Technology |  |
| 11                                                     | KVCB | 513 | Wireless<br>Sensor<br>Networks                             | 1 | 3         | 2 | 1 |  | Faculty of<br>Engineering<br>&<br>Technology |  |
| 12                                                     | KVGT | 514 | Protocols and<br>Networks                                  | 2 | 3         | 2 | 1 |  | Faculty of<br>Engineering<br>&<br>Technology |  |
| 13                                                     | KVCN | 515 | Industrial<br>Information<br>Systems                       | 2 | 3         | 2 | 1 |  | Faculty of<br>Engineering<br>&<br>Technology |  |
| 14                                                     | KVCX | 516 | Signal<br>Processing<br>Research<br>Topics                 | 2 | 3         | 2 | 1 |  | Faculty of<br>Engineering<br>&<br>Technology |  |
| 15                                                     | KVTU | 517 | Optimization in<br>Communicatio-<br>ns Systems             | 3 | 3         | 2 | 1 |  | Faculty of<br>Engineering<br>&<br>Technology |  |
| 16                                                     | KVDV | 518 | Satellite-based<br>Positioning                             | 3 | 3         | 2 | 1 |  | Faculty of<br>Engineering<br>&<br>Technology |  |
| <i>Specialized Knowledge (select 9/30<br/>credits)</i> |      |     |                                                            |   | <b>9</b>  |   |   |  |                                              |  |

|    |      |     |                                                      |   |   |   |   |  |                                     |  |
|----|------|-----|------------------------------------------------------|---|---|---|---|--|-------------------------------------|--|
| 17 | KVDT | 519 | Electromagnetic Compatibility                        | 2 | 3 | 2 | 1 |  | Faculty of Engineering & Technology |  |
| 18 | KVMM | 520 | Cryptography and Telecommunications Network Security | 2 | 3 | 2 | 1 |  | Faculty of Engineering & Technology |  |
| 19 | KVVM | 521 | CMOS Integrated Circuit Design                       | 3 | 3 | 2 | 1 |  | Faculty of Engineering & Technology |  |
| 20 | KVAT | 522 | Smart Antennas                                       | 3 | 3 | 2 | 1 |  | Faculty of Engineering & Technology |  |
| 21 | KVQL | 523 | Information Project Management                       | 3 | 3 | 2 | 1 |  | Faculty of Engineering & Technology |  |
| 22 | KVNT | 524 | Artificial Intelligence Technology                   | 3 | 3 | 2 | 1 |  | Faculty of Engineering & Technology |  |
| 23 | KVIT | 525 | IoT Systems Topics                                   | 3 | 3 | 2 | 1 |  | Faculty of Engineering & Technology |  |
| 24 | KVQC | 526 | Advanced Optical Communications                      | 3 | 3 | 2 | 1 |  | Faculty of Engineering & Technology |  |
| 25 | KVTK | 528 | ASIC Chip Design Topics                              | 3 | 3 | 2 | 1 |  | Faculty of Engineering & Technology |  |
| 26 | KVTG | 529 | Computer Vision and                                  | 3 | 3 | 2 | 1 |  | Faculty of Engineering              |  |

|                                               |      |     |                                 |   |           |   |   |  |                                     |  |
|-----------------------------------------------|------|-----|---------------------------------|---|-----------|---|---|--|-------------------------------------|--|
|                                               |      |     | Image Processing                |   |           |   |   |  | & Technology                        |  |
| <i>II.3. Practical Internship</i>             |      |     |                                 |   | 6         |   |   |  |                                     |  |
| 27                                            | KVTC | 509 | Telecommunications Internship 1 | 3 | 3         | 0 | 3 |  | Faculty of Engineering & Technology |  |
| 28                                            | KVTN | 510 | Telecommunications Internship 2 | 4 | 3         | 0 | 3 |  | Faculty of Engineering & Technology |  |
| <b>III. Graduation Course (Final Project)</b> |      |     |                                 |   | <b>9</b>  |   |   |  |                                     |  |
| 29                                            | DATN | 527 | Graduation Final Project        | 4 | 9         |   |   |  | Faculty of Engineering & Technology |  |
| <b>Grand Total</b>                            |      |     |                                 |   | <b>60</b> |   |   |  |                                     |  |

## 10. TRAINING SCHEDULE (tentative)

| No                                       | Course Code |     | Course Name                             | No. credits | Training Schedule<br>(semester) |   |   |   | Expected Instructors                | Managing Faculty                    |
|------------------------------------------|-------------|-----|-----------------------------------------|-------------|---------------------------------|---|---|---|-------------------------------------|-------------------------------------|
|                                          | Letter      | No. |                                         |             |                                 | 1 | 2 | 3 |                                     |                                     |
| I. General Knowledge                     |             |     |                                         | 3           |                                 |   |   |   |                                     |                                     |
| 1                                        | TNTH        | 501 | Philosophy                              | 3           | 1                               |   |   |   | As assigned by the managing faculty | DPESM                               |
| II. Foundation and Specialized Knowledge |             |     |                                         | 48          |                                 |   |   |   |                                     |                                     |
| II.1. Compulsory                         |             |     |                                         | 21          |                                 |   |   |   |                                     |                                     |
| 2                                        | KVTS        | 502 | Advanced Digital Communications Systems | 3           | 1                               |   |   |   | Dr. Đào Minh Hung                   | Faculty of Engineering & Technology |
| 3                                        | KVDD        | 503 | Mobile and Wireless Networks            | 3           | 1                               |   |   |   | Dr. Ho Van Phi                      | Faculty of Engineering & Technology |

|                                             |      |     |                                                       |           |   |   |  |  |                             |                                     |
|---------------------------------------------|------|-----|-------------------------------------------------------|-----------|---|---|--|--|-----------------------------|-------------------------------------|
| 4                                           | KVXL | 504 | Spatial-Temporal Signal Processing                    | 3         | 1 |   |  |  | Dr. Dao Minh Hung           | Faculty of Engineering & Technology |
| 5                                           | KVTT | 505 | Information Theory and Coding                         | 3         | 1 |   |  |  | Dr. Dang Thi Tu My          | Faculty of Engineering & Technology |
| 6                                           | KVPT | 506 | Analysis and Design of Wireless Communication Systems | 3         |   | 2 |  |  | Dr. Nguyen Do Dung          | Faculty of Engineering & Technology |
| 7                                           | KVPA | 507 | Numerical Analysis and Design of Antennas             | 3         | 1 |   |  |  | Dr. Huynh Nguyen Bao Phuong | Faculty of Engineering & Technology |
| 8                                           | KVCD | 508 | Advanced Communication Systems Topics                 | 3         |   | 2 |  |  | Dr. Nguyen Do Dung          | Faculty of Engineering & Technology |
| <b>II.2. Elective (select 7/18 courses)</b> |      |     |                                                       | <b>21</b> |   |   |  |  |                             |                                     |
| 9                                           | KVTP | 511 | Information Transceiver Systems                       | 3         |   |   |  |  | Dr. Pham Hong Thinh         | Faculty of Engineering & Technology |
| 10                                          | KVVT | 512 | Next-Generation Telecommunications Networks           | 3         |   |   |  |  | Dr. Ho Van Phi              | Faculty of Engineering & Technology |
| 11                                          | KVCB | 513 | Wireless Sensor Networks                              | 3         |   |   |  |  | Dr. Nguyen Duy Thong        | Faculty of Engineering & Technology |
| 12                                          | KVGT | 514 | Protocols and Networks                                | 3         |   |   |  |  | Dr. Nguyen Duy Thong        | Faculty of Engineering & Technology |

|    |      |     |                                                      |   |  |  |  |  |                             |                                     |
|----|------|-----|------------------------------------------------------|---|--|--|--|--|-----------------------------|-------------------------------------|
| 13 | KVCN | 515 | Industrial Information Systems                       | 3 |  |  |  |  | Dr. Đào Minh Hung           | Faculty of Engineering & Technology |
| 14 | KVCX | 516 | Signal Processing Research Topics                    | 3 |  |  |  |  | Dr. Pham Hong Thinh         | Faculty of Engineering & Technology |
| 15 | KVTU | 517 | Optimization in Communications Systems               | 3 |  |  |  |  | Dr. Nguyen Do Dung          | Faculty of Engineering & Technology |
| 16 | KVDV | 518 | Satellite-based Positioning                          | 3 |  |  |  |  | Dr. Le Thi Cam Ha           | Faculty of Engineering & Technology |
| 17 | KVĐT | 519 | Electromagnetic Compatibility                        | 3 |  |  |  |  | Dr. Đặng Thi Tu My          | Faculty of Engineering & Technology |
| 18 | KVMM | 520 | Cryptography and Telecommunications Network Security | 3 |  |  |  |  | Dr. Nguyen Tuong Thanh      | Faculty of Engineering & Technology |
| 19 | KVVM | 521 | CMOS Integrated Circuit Design                       | 3 |  |  |  |  | Dr. Nguyen Van Hao          | Faculty of Engineering & Technology |
| 20 | KVAT | 522 | Smart Antennas                                       | 3 |  |  |  |  | Dr. Huynh Nguyen Bao Phuong | Faculty of Engineering & Technology |
| 21 | KVQL | 523 | Information Project Management                       | 3 |  |  |  |  | Dr. Huynh Cong Tu           | Faculty of Engineering & Technology |
| 22 | KVNT | 524 | Artificial Intelligence Technology                   | 3 |  |  |  |  | Dr. Nguyen Tuong Thanh      | Faculty of Engineering & Technology |

|                                      |      |     |                                      |           |           |           |           |           |                                         |                                     |
|--------------------------------------|------|-----|--------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------------------------------------|-------------------------------------|
| 23                                   | KVIT | 525 | IoT Systems Topics                   | 3         |           |           |           |           | Dr. Nguyen Duy Thong                    | Faculty of Engineering & Technology |
| 24                                   | KVQC | 526 | Advanced Optical Communications      | 3         |           | 2         |           |           | Dr. Le Thi Cam Ha                       | Faculty of Engineering & Technology |
| 25                                   | KVTK | 528 | ASIC Chip Design Seminar             | 3         |           |           | 3         |           | Dr. Nguyen Duy Thong                    | Faculty of Engineering & Technology |
| 26                                   | KVTG | 529 | Computer Vision and Image Processing | 3         |           |           | 3         |           | Dr. Nguyen Tuong Thanh                  | Faculty of Engineering & Technology |
| <i>II.3. Practical Internship</i>    |      |     |                                      | <b>6</b>  |           |           |           |           |                                         |                                     |
| 27                                   | KVTC | 509 | Telecommunications Internship 1      | 3         |           |           | 3         |           | Electronics & Telecom Department        | Faculty of Engineering & Technology |
| 28                                   | KVTN | 510 | Telecommunications Internship 2      | 3         |           |           |           | 4         | Electronics & Telecom Department        | Faculty of Engineering & Technology |
| <b>III. Graduation Final Project</b> |      |     |                                      | <b>9</b>  |           |           |           |           |                                         |                                     |
| 29                                   | DATN | 527 | Graduation Final Project             | 9         |           |           |           | 4         | Instructors meeting current regulations | Faculty of Engineering & Technology |
| <b>Grand Total</b>                   |      |     |                                      | <b>60</b> | <b>18</b> | <b>15</b> | <b>15</b> | <b>12</b> |                                         |                                     |

## 11. TRAINING PROGRAM IMPLEMENTATION GUIDELINES

- This training program applies starting from the 2025 master's intake for graduate students in Telecommunications Engineering.

- The training process is based on the designed curriculum, training objectives, target audiences, human resource requirements, and specific training demands. For elective courses,

depending on actual development trends and social needs, the faculty managing the major and the course-managing faculty will advise students in selecting appropriate courses.

- The head of the managing faculty is responsible for organizing and guiding the principles for developing the training program, and detailed course syllabi to ensure that objectives, content, and requirements are met while satisfying the needs of learners and society.

- The training program is reviewed, evaluated, and updated in accordance with the current regulations of the Ministry of Education and Training and Quy Nhon University to meet the development needs of master's-level Telecommunications Engineering and align with socio-economic development demands./.

*Binh Dinh, December 19, 2024*

|                             |                                          |                                                            |
|-----------------------------|------------------------------------------|------------------------------------------------------------|
| <b>VICE DEAN OF FACULTY</b> | <b>HEAD OF POSTGRADUATE<br/>TRAINING</b> | <b>BY THE DELEGATION OF<br/>THE RECTOR<br/>VICE-RECTOR</b> |
|-----------------------------|------------------------------------------|------------------------------------------------------------|

**Dr. Nguyen Mai Chi Trung**

**Assoc. Prof. Ho Xuan Quang**

**Dr. Đinh Anh Tuan**