# Training Program for Academic Master Degree in

# Software Engineering

# (for International Students)

**(Discipline code: 083500, apply to master Degree in Engineering)**

1. **Objectives**

To train senior professionals in the field of computer science & technology with all-round development of morality, intelligence and physique, the specific requirements are as follows:

1. Mastering the basic theories of Marxism and establishing a scientific world outlook, adhering to the basic lines of the Party, love the motherland, abiding the law, forming a good character, behaving honestly and trustworthy, strictly and corporately, and maintaining good research ethics and professionalism.

2. Mastering the solid basic theory and systemic professional knowledge of this discipline, and having a deep understanding of computer software & theory, computer system structure, computer application and other professional knowledge.

3. Being qualified in higher levels of teaching, researching, engineering technology and technological management.

4. Mastering a foreign language, being able to skillfully read professional foreign language materials and write papers.

5. Maintaining a good physical and mental health quality.

1. **Disciplinary Research Areas**

1. Software engineering theories

2. Software engineering technologies

3. Software engineering management

4. Service-oriented software engineering

1. **Education System and Length of Study**

The full-time academic master degree is 3 year-system, the study period is generally 3-4 years, and the maximum is no more than 5 years.

The length of study for part-time academic master degree can be extended appropriately, usually 3-4 years, up to 6 years, the cumulative time of study at school should generally be no less than 6 months, and the dissertation working time should be at least 1.5 years (from the dissertation proposal to the end of the defense).

For postgraduate students who suspend their courses to do business, the maximum length of study is 10 years.

1. **Curriculum and Credit Requirements**

1. Credit requirements

Total awarded credits should be not less than 34, including 2 credits for compulsory courses and the rest for course study. The courses are composed of public degree courses, core courses and elective courses. The credits of public degree courses should be not less than 13, the credits of core courses should be not less than 8, the credits of elective courses should be not less than 10, and the credits of interdisciplinary elective courses should be not less than 1. Compulsory sections include: 1 credit for academic activities, 1 credit for dissertation proposal and mid-term assessment.

2. Curriculum provision:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course category** | | | **Course No.** | **Course name** | **Teaching Hours** | **Experimental Hours** | **Credits** | **Semester** | **School** | **Remark** |
| Public degree courses  (13 credits) | | Foreign language （6 credits） | **01981901** | Basic Chinese 1 | 108 |  | 6 | 1 | School of Law，Humanities and Sociology |  |
| Ideological and Political Courses  (3credits) | 02111006 | Introduction to China | 36 |  | 2 | 2 | School of Marxism |  |
| **03281901** | Chinese Cultural Experience | 18 |  | 1 | 1 | School of International Education |  |
| Mathematics | **01421901** | Matrix Theory | 36 |  | 2 | 1 | School of Science | At least 2 courses required |
| **01421902** | Stochastic Process | 36 |  | 2 | 2 | School of Science |
| **01421904** | Numerical Analysis | 36 |  | 2 | 2 | School of Science |
| Discipline Degree Courses  （8 credits） | | | 01021802 | Advanced Principal and Technology of Artificial Intelligence | 54 |  | 3 | 2 | School of Computer Science |  |
| 01021803 | Modern Computer Architecture | 54 |  | 3 | 2 | School of Computer Science |  |
| 01021804 | High-Performance Computer Networks | 54 |  | 3 | 2 | School of Computer Science |  |
| 01021805 | Modern Software Engineering | 54 |  | 3 | 2 | School of Computer Science |  |
| 01021806 | Modern Database Technologies | 54 |  | 3 | 2 | School of Computer Science |  |
| 01021808 | Introduction of Reliability Engineering | 54 |  | 3 | 2 | School of Computer Science |  |
| 01021815 | Computer Vision | 54 |  | 3 | 2 | School of Computer Science |  |
| Elective Courses  （11 credits） | Discipline Elective Courses（10 credits） | | **01981902** | Basic Chinese 2 | 108 |  | 6 | 2 | School of Law，Humanities and Sociology | compulsory |
| 01022808 | Practices of Web Data Management |  | 18 | 1 | 2 | School of Computer Science |  |
| 01022813 | Knowledge Discovery and Data Mining | 36 |  | 2 | 2 | School of Computer Science |  |
| 01022817 | Mining of Massive Datasets | 36 |  | 2 | 2 | School of Computer Science |  |
| Interdisciplinary  Elective course  (1 credit) | | 02223001 | Taijiquan culture and practice | 18 |  | 1 | 1 | Sports department | compulsory |
| Compulsory Courses  (2 credits) | | | **01024006** | Academic Activities |  |  | 1 | 3 | School of Computer Science |  |
| **01024004** | Thesis Proposal and Midterm  assessment. |  |  | 1 | 3 | School of Computer Science |  |

**V**  **Compulsory Courses**

1. In order to encourage graduate students to take the initiative to care about and understand the development of the frontiers of the discipline at home and abroad, broaden their horizons and inspire creativity, each master degree international student should organize academic activities at least twice, participate in academic activities at least 10 times and write more than 500 words each time afterwards. After examination by the supervisor (Group), those who complete it will get 1 credit of compulsory courses.
2. For thesis proposal, master degree international students should generally combine the research area and the research project of the supervisor, and choose a topic with theoretical significance or application value for the needs of national economy and social development. Factors such as the categary, knowledge structure, work ability and years of study of academic master degree international students should be considered when determining the content and workload of the dissertation work.

The master degree students must participate in the mid-term assessment of the school. The specific requirements for thesis proposal and mid-term assessment shall be implemented in accordance with the postgraduate handbook *Wuhan University of Technology Postgraduate Midterm Examination and Implementation Measures’.*

**Ⅵ**  **Scientific Research and Dissertation**

According to the "Implementation Measures on Degree Awarding for International Students in Wuhan University of Technology", each discipline may propose specific requirements for academic achievements of academic master students during their study period according to the characteristics of the discipline.

1) Thesis proposal

Thesis proposal must be determined under the guidance of supervisor, combined with the research direction of supervisor and the interest of the postgraduate student, after a thorough investigation in the scope of computer science & technology and related disciplines. The content of the proposal should reflect the new trend of the development of computer science & technology discipline, with certain theoretical innovation and practical application significance.

2) Formatting

The dissertation should conform to the formal formatting and language characteristics of scientific papers. The academic viewpoint must be clear, logical and rigorous. The content of the dissertation should be smooth with clear representation. Experiment results must be convincing.

3) Quality

Dissertation proposal must have a clear research background, and the thesis work has certain technical difficulty or theoretical depth. The dissertation must have certain advanced, innovative and practical contributions. At the same time, in order to guarantee the quality of the dissertation, the preparation period of dissertation should be generally around one year, and the minimum should be no less than 8 months.

Postgraduate students applying for the academic master degree must meet the relevant requirements of publication in the graduates’ manual. Dissertation must pass the test by TMLC2 and reach the requirements of the Academic Degree Evaluation Committee before the defense.

**Ⅶ** **Training Methods**

The training of master degree international students adopts the guidance method of the supervisor-responsible system or the supervisor-oriented steering group. The training methods should be flexible and diverse, and more heuristic and deliberative teaching methods to demonstrate the leading role of the supervisor.

**Ⅷ** **Others**

1. Master degree international students whose Chinese language ability reach the level 3 according to the International Chinese proficiency Standard and get credits of courses related to Introduction to Chinese during the period of studying at a lower level degree in other Chinese universities, with the approval of the school, can be exempted from the public Chinese Language course and Introduction to China and get the corresponding credits.
2. Before thesis proposal, master degree international students are required to pass all the degree courses and get the credits before thesis proposal. Students are allowed to take some of the other elective courses according to the dissertation after thesis proposal. All the courses shall be completed before the application of thesis defense.
3. Master degree international students should review more than 40 pieces of literature at home and abroad, in which foreign literature shall be no less than one third.
4. Master degree international students shall report their own learning and research work to the supervisor at least once a month at the course learning stage, and at least twice a month during the dissertation sessions, which shall be institutionalized and clearly clarified in the programs.
5. This program will be implemented from 2019 for academic master degree international students.