

## Mobile Application & Technology

### Introduction

Mobile technology is a growing trend in technology that provides infrastructure and technology for all businesses to ride on. With mobile technology, the future is borderless. Mobile Application & Technology (MAT) program is designed to provide students with the knowledge and skills in mobile computing, communications, and entrepreneurship. The aims of Mobile Application & Technology program to provide students with an understanding of mobile/wireless technologies, wearable technologies, embedded system and internet of things (IoT), how these technologies are utilised and integrated to meet specific business needs. The course builds a solid foundation of software development skills and introduces the particular skills needed for developing mobile/wireless applications. Students will also gain the necessary understanding of current technologies and architectures that provide the network and communications infrastructure for mobile-enabled enterprise computer systems, planning, management and how to build a mobile enterprise. Students will also develop skills in the design of modern distributed software systems, using appropriate technologies, architectures, and techniques, and in the advanced network, technologies supporting the upper layers, together with their planning, management, and security. The structure of the course allows students to gain valuable practical experience in building software systems, and also apply knowledge in mobile creative design.

The MAT program was established in September 2011, under BINUS UNIVERSITY. It became one of the programs under the coordination of the School of Computer Science.

### Vision

A program of choice in Mobile Application and Technology, which specializes in developing creative mobile software solutions for businesses, is recognized internationally, champions innovation and delivers graduates with international qualifications.

### Mission

The mission of Mobile Application and Technology Program is to contribute to the global community through the provision of world-class education by:

1. Educating student in the fundamental skills, knowledge, and practice of recent mobile technologies and architectures, wireless technologies, mobile software development, and game design;
2. Conducting research and providing mobile application and technology professional services with an emphasis on the application of knowledge for society's development;
3. Sharing the application of knowledge related to mobile application & technology with a view to Indonesians' and the international community quality of life;
4. Influencing students & lecturers to be creative, value-adding and competitive at an international level in mobile application & technology, by creating a suitable environment;
5. Preparing students as smart and skilled mobile application & technology professionals, leaders, and entrepreneurs in the global market and/or to continue in related disciplines.

### Program Objective

The objectives of the program are:

1. To provide students with a solid foundation in computer science knowledge, and especially mathematical, algorithm principles, that are needed for mobile software solutions;

2. To provide students with skills to apply design and development principles in the construction of recent mobile technologies, such as architectures, wireless technologies, mobile software development, and game design;
3. To prepare students with abilities to keep up-to-date with the latest Mobile Application and Technology trends;
4. To prepare students with abilities in problem solving, good communication skills and ethics to be able to work as an individual or in a team in an IT environment.

### **Student Outcomes**

After completing the study, graduates are:

1. Able to create software application design with the implementation of database system principal design to solve structured and semi-structured data;
2. Able to design software application solution based on problem analysis which can be solved with structured approach in informatics area;
3. Able to assess technology trend in informatics area to deliver alternative solution of software development;
4. Able to design mobile solution development;
5. Able to study the trend of mobile technology in the future;
6. Able to create solution by applying technology and current mobile application;
7. Able to apply interdisciplinary knowledge and skills in developing alternative solutions for problem-solving.

### **Prospective Career of the Graduates**

After finishing the Program, the graduate of Mobile Application & Technology Program could follow a career as:

1. Mobile Software Engineer/Developer
2. Mobile Games Designer & Mobile Games Developer
3. Mobile Business Application Developer
4. Mobile User Experience Designers
5. Mobile User Interface Architect
6. Information Analyst in Decentralized Businesses
7. IT Support/Consultant
8. Lecturer/Trainer

### **Curriculum**

The present curriculum used in the Mobile Application & Technology Program has been developed in line with the National Curriculum. Also, the local content has been developed in line with the Computer Science Curriculum standard of ACM (Association for Computing Machinery), several local and foreign universities, mobile technologies and market trends, so that the graduates of the Mobile Application & Technology Program are expected to be able to face competition at both a national and international level.

Generally, the subjects of the curriculum 2019 are divided into these following groups of subjects:

#### **Mathematics Group (Science)**

The objective of this group is to provide an understanding of mathematics as one of the principal foundations of computer science. Another goal is to give an understanding of scientific methodology (data collection, hypothesis, research, analysis) in problem-solving.

#### **Character Building Group (Professional Practices)**

The objective of this group is to develop the personal strengths of the student and to provide him or her with a professional character, professionalism in their field, management skills, oral and written communication skills, understanding of business ethics, ability to work as a team, and to develop a “Binusian” Character.

### Core Group

The objective of this group is to provide grounding in the Mobile Application Technology Program through practice as well as an applied theory which is required by business both now and in the future. The subjects that are included in this group are programming, algorithm design and analysis, software engineering, databases, computer graphs, multimedia, computer and human interaction, operation system, mobile device architecture, and mobile network.

### The Field of MAT Subject

The objective of builds the field of the subject in Mobile Application Technology is to give the students a solid foundation of software development skills and to introduce the specific skills needed for developing mobile/wireless applications. Students will also gain the necessary understanding of current technologies and architectures such as wearable technologies, embedded system and internet of things (IoT) that provide the network and communications infrastructure for mobile-enabled enterprise computer systems, also to give students the opportunity to obtain a deep understanding of a range of disciplines in Mobile Application Technology.

The students are expected to develop their skills and master the techniques which will allow them to research both their thesis and to continue their studies.

The field of MAT subjects:

1. Mobile Programming: to explore the various methodologies and mobile software engineering equipment.
2. Mobile Entrepreneurship: to explore the various techniques of planning, management skills, and building a mobile application & technology company.
3. Current Mobile Technology: to explore several of the trend technology in mobile application & device also research on the internet of thing, embedded system technology, virtual reality and augmented reality.

All students of MAT Program must follow these three fields to become Mobile Application Technology graduates. The objective of these three fields is to provide the students with the knowledge and skills required by business & industry and who wants to develop their own mobile application company.

### Course Structure

| Sem | Code                                | Course Name                                | SCU | Total |  |
|-----|-------------------------------------|--|-----|-------|--|
| 1   | CHAR6013                            | Character Building: <i>Pancasila</i>       | 2   | 20    |  |
|     | MATH6025                            | Discrete Mathematics                       | 4   |       |  |
|     | MATH6030                            | Linear Algebra                             | 2   |       |  |
|     | COMP6047                            | Algorithm and Programming                  | 4/2 |       |  |
|     | MOBI6056                            | Mobile Creative Design <sup>*&amp;**</sup> | 2   |       |  |
|     | LANG6027                            | Indonesian                                 | 2   |       |  |
|     | <b>English University Courses I</b> |  |     |       |  |
|     | ENGL6128                            | English in Focus                           | 2   |       |  |
|     | ENGL6130                            | English for Business Presentation          | 2   |       |  |
| 2   | CHAR6014                            | Character Building: <i>Kewarganegaraan</i> | 2   | 20    |  |
|     | MATH6031                            | Calculus                                   | 4   |       |  |
|     | COMP6048                            | Data Structures*                           | 4/2 |       |  |
|     | STAT6171                            | Basic Statistics                           | 2   |       |  |

| Sem                          | Code                                 | Course Name                                | SCU | Total |   |
|------------------------------|--------------------------------------|--|-----|-------|---|
|                              | MOBI6068                             | Web Design*&**                             | 2   |       |   |
|                              | ENTR6509                             | Entrepreneurship: Ideation                 | 2   |       |   |
|                              | <b>English University Courses II</b> |  |     |       |   |
|                              | ENGL6129                             | English Savvy                              | 2   |       |   |
|                              | ENGL6131                             | English for Written Business Communication | 2   |       |   |
| 3                            | CHAR6015                             | Character Building: <i>Agama</i>           | 2   | 21    |   |
|                              | COMP6049                             | Algorithm Design and Analysis*             | 4   |       |   |
|                              | COMP6056                             | Program Design Methods                     | 4   |       |   |
|                              | COMP6643                             | Artificial Intelligence*&***               | 5   |       |   |
|                              | ISYS6279                             | Database Systems                           | 4/2 |       |   |
| 4                            | CPEN6108                             | Computer Networks                          | 2/2 | 23    |   |
|                              | MOBI6006                             | Mobile Community Solution*&**              | 2/2 |       |   |
|                              | MOBI6061                             | Embedded System and Internet of Things*&** | 2   |       |   |
|                              | COMP6644                             | Software Engineering*&***                  | 5   |       |   |
|                              | COMP6062                             | Compilation Techniques                     | 4   |       |   |
|                              | COMP6231                             | Human and Computer Interaction             | 2/2 |       |   |
| 5                            | COMP6696                             | Research Methodology in Computer Science   | 2   | 16    |   |
|                              | COMP6697                             | Operating System                           | 2   |       |   |
|                              | ENTR6511                             | Entrepreneurship: Market Validation        | 2   |       |   |
|                              | MOBI6009                             | Mobile Multimedia Solution**               | 2/2 |       |   |
|                              | MOBI6057                             | Wearable Technology*&**                    | 2   |       |   |
|                              | <b>Free Electives</b>                |  |     |       | 4 |
| 6                            | <b>Enrichment Program I</b>          |  | 20  | 20    |   |
| 7                            | <b>Enrichment Program II</b>         |  | 20  | 20    |   |
| 8                            | MOBI6064                             | Pre-Thesis                                 | 2   | 6     |   |
|                              | MOBI6065                             | Thesis                                     | 4   |       |   |
| <b>TOTAL CREDITS 146 SCU</b> |                                      |  |     |       |   |

\*) This course is delivered in English

\*\*) Global Learning System Course

\*\*\*) Entrepreneurship Embedded

For Free Electives, students are required to choose from the list of Free Electives in Appendix.

#### English University Courses:

- ) For 1<sup>st</sup> Semester: English University Courses I, students with Binus University English Proficiency Test score less than 500 will take English in Focus, and student with test score greater than or equal to 500 will take English for Business Presentation.
- ) For 2<sup>nd</sup> Semester: English University Courses II, students with Binus University English Proficiency Test score less than 500 will take English Savvy, and students with test score greater than or equal to 500 will take English for Written Business Communication.
- ) Students must pass English Savvy with a minimum Grade of C.

#### Enrichment Program I (6<sup>th</sup> Semester) & Enrichment Program II (7<sup>th</sup> Semester):

- ) Student will take one of enrichment program tracks (off campus). See enrichment appendix for the tracks detail.

**Appendix: Free Electives 5<sup>th</sup> Semester)**

| No | Course Owner Departement          | Course Code | Course Name  | SCU | Semester |
|----|-----------------------------------|-------------|--|-----|----------|
| 1  | Business Creation                 | ENTR6494    | Managing Growing Business                            | 2   | 5        |
| 2  | Business Management               | MGMT6362    | Global Supply Chain Services                         | 2   | 5        |
| 3  | Business Management               | MGMT6365    | Current Issue in Service Business and Technology     | 2   | 5        |
| 4  | Business Management               | MGMT6400    | Supply Chain Strategy                                | 2   | 5        |
| 5  | Global Business Management        | MKTG6237    | Global Strategic Marketing: Asia Pacific Perspective | 4   | 5        |
| 6  | International Business Management | BUSS7009    | Export-Import Cost Management                        | 2   | 5        |
| 7  | International Business Management | MGMT6370    | E-Business for International Business                | 2   | 5        |
| 8  | International Business Management | MGMT7169    | Global Supply Chain Management                       | 2   | 5        |
| 9  | Management                        | BUSS6069    | Business Simulation                                  | 2   | 5        |
| 10 | Management                        | BUSS6163    | Organization Development Strategy                    | 2   | 5        |
| 11 | Management                        | BUSS6194    | Business Negotiation Strategy                        | 2   | 5        |
| 12 | Management                        | ISYS8175    | E-Business Strategy and Implementation               | 4   | 5        |
| 13 | Management                        | MGMT6029    | Knowledge Management                                 | 2   | 5        |
| 14 | Management                        | MGMT6063    | Strategic Management                                 | 2   | 5        |
| 15 | Management                        | MGMT6145    | Compensation and Performance Management              | 2   | 5        |
| 16 | Management                        | MGMT6297    | Operations Management                                | 4   | 5        |
| 17 | Management                        | MGMT6341    | Strategic Management                                 | 4   | 5        |
| 18 | Management                        | MGMT6412    | Customer Relationship Management                     | 2   | 5        |
| 19 | Accounting Bekasi                 | ACCT6389    | Big Data Analytics in Accounting & Finance           | 2   | 5        |
| 20 | Marketing Communication           | COMM6514    | Editing for Creative Program                         | 2/2 | 5        |
| 21 | Marketing Communication           | COMM6523    | Corporate Event Management                           | 2/2 | 5        |
| 22 | Marketing Communication           | COMM6538    | Media Promotion & Marketing in Creative Broadcasting | 2   | 5        |
| 23 | Marketing Communication           | COMM6539    | Media Convergence in Creative Broadcasting           | 2   | 5        |
| 24 | Marketing Communication           | COMM6541    | Digital Corporate Communication                      | 2/2 | 5        |
| 25 | Marketing Communication           | COMM6542    | Event Management for Brand                           | 2/2 | 5        |
| 26 | Marketing Communication           | COMM6543    | Digital Brand Communicaton                           | 2/2 | 5        |
| 27 | Tourism                           | TRSM6141    | Tourism Destination and Planning Management          | 4   | 5        |
| 28 | Tourism                           | TRSM6160    | Tourism Transportation                               | 2   | 5        |
| 29 | Tourism                           | TRSM6208    | Tourism Innovation and Product Development           | 4   | 5        |
| 30 | Tourism                           | TRSM6196    | Tourism Community Empowerment                        | 2   | 5        |
| 31 | Architecture                      | ARCH6047    | Behavior in Architecture                             | 2   | 5        |
| 32 | Architecture                      | ARCH6061    | Sustainable Architecture                             | 2   | 5        |
| 33 | Architecture                      | ARCH6128    | Multimedia in Design Presentation                    | 4   | 5        |
| 34 | Architecture                      | ARCH6129    | Urban Housing  | 4   | 5        |
| 35 | Architecture                      | ARCH6130    | Architecture & Social Culture                        | 4   | 5        |
| 36 | Architecture                      | ARCH6132    | Leadership Organization Behavior                     | 4   | 5        |

| No | Course Owner Department | Course Code | Course Name   | SCU | Semester |
|----|-------------------------|-------------|---|-----|----------|
| 37 | Civil Engineering       | CIVL6007    | Harbour Engineering   | 2   | 5        |
| 38 | Civil Engineering       | CIVL6009    | Urban Drainage  | 2   | 5        |
| 39 | Civil Engineering       | CIVL6015    | Geosynthetics Application in Civil Engineering                | 2   | 5        |
| 40 | Civil Engineering       | CIVL6025    | Hydrology   | 2   | 5        |
| 41 | Civil Engineering       | CIVL6035    | Airport Engineering   | 2   | 5        |
| 42 | Civil Engineering       | CIVL6037    | Railway Engineering   | 2   | 5        |
| 43 | Civil Engineering       | CIVL6080    | Construction Methods & Heavy Equipment                        | 2   | 5        |
| 44 | Civil Engineering       | CIVL8038    | Soil Improvement Method                                       | 2   | 5        |
| 45 | Civil Engineering       | CIVL8056    | Bridge Engineering  | 2   | 5        |
| 46 | Civil Engineering       | COMP6046    | Computer Applications in Construction Management              | 2   | 5        |
| 47 | Computer Engineering    | CPEN6098    | Computer Networks   | 2/2 | 5        |
| 48 | Computer Engineering    | CPEN6126    | Cross Platform Application Development                        | 4   | 5        |
| 49 | Computer Engineering    | CPEN6225    | Telco Network & Switching System                              | 2   | 5        |
| 50 | Computer Engineering    | CPEN6232    | Cloud Technology Practice                                     | 2   | 5        |
| 51 | Food Tech               | FOOD6062    | Food Quality Assurance System                                 | 2/1 | 5        |
| 52 | Food Tech               | FOOD6063    | Food Safety & Sanitation                                      | 2/1 | 5        |
| 53 | Industrial Engineering  | ISYE6067    | Global Supply Chain   | 2   | 5        |
| 54 | Industrial Engineering  | ISYE6115    | Transportation Modeling                                       | 2   | 5        |
| 55 | Industrial Engineering  | ISYE6130    | Project Management  | 2   | 5        |
| 56 | Business Law            | LAWS6052    | Bankruptcy Law  | 2   | 5        |
| 57 | Business Law            | LAWS6056    | Legal Research Methods  | 2   | 5        |
| 58 | Business Law            | LAWS6167    | Legal Philosophy & Professional Ethics                        | 2   | 5        |
| 59 | Business Law            | LAWS6172    | Environmental and Natural Resources Law                       | 2   | 5        |
| 60 | Business Law            | LAWS6174    | Contract & Legislative Drafting                               | 2   | 5        |
| 61 | Business Law            | LAWS6176    | Tax Law   | 2   | 5        |
| 62 | Chinese Literature      | CHIN6157    | Chinese Business for Etiquette (Beginner)                     | 4   | 5        |
| 63 | Chinese Literature      | CHIN6158    | Chinese Business in Daily Communication                       | 4   | 5        |
| 64 | Chinese Literature      | CHIN6159    | Chinese Character Writing                                     | 2   | 5        |
| 65 | English Literature      | ENGL6158    | Writing for Children and Young Adults                         | 2   | 5        |
| 66 | English Literature      | ENGL6244    | Social Media Broadcasting                                     | 4   | 5        |
| 67 | International Relations | INTR6151    | Regional Integration in Europe                                | 2   | 5        |
| 68 | International Relations | INTR6152    | Regional Integration in America                               | 2   | 5        |
| 69 | International Relations | INTR6153    | Regional Integration in East Asia                             | 2   | 5        |
| 70 | International Relations | INTR6154    | Regional Integration in Africa and Middle East                | 2   | 5        |
| 71 | International Relations | INTR6161    | Political Economy of Global Media                             | 2   | 5        |
| 72 | International Relations | INTR6162    | Multiculturalism and Digital Society                          | 2   | 5        |
| 73 | International Relations | INTR6167    | International Political Economy of Multinational Corporations | 2   | 5        |
| 74 | International Relations | INTR6169    | International Migration: Governance and Rights                | 2   | 5        |
| 75 | International Relations | INTR8049    | Global Economic Architecture                                  | 2   | 5        |

| No  | Course Owner Departement               | Course Code | Course Name  | SCU | Semester |
|-----|--|-------------|--|-----|----------|
| 76  | Japanese Literature                    | JAPN6116    | Japanese Corporate Culture and Management (Nihon No Kigyuu Bunka to Manejimento) | 2   | 5        |
| 77  | Primary Teacher Education              | EDUC6032    | Art & Craft  | 2   | 5        |
| 78  | Psychology                             | PSYC6127    | Indigenous Psychology  | 4   | 5        |
| 79  | Cyber Security                         | COMP6646    | Computer Forensic  | 2   | 5        |
| 80  | Mobile Application & Technology        | MOBI6057    | Wearable Technology  | 2   | 5        |
| 81  | Mobile Application & Technology        | MOBI6059    | Mobile Programming   | 2   | 5        |
| 82  | Statistics                             | RSCH6483    | Research Methodology in Data Science   | 2   | 5        |
| 83  | Statistics                             | STAT6158    | Data Management and Organization   | 2   | 5        |
| 84  | Computer Science                       | COMP6176    | Human and Computer Interaction   | 2/2 | 5        |
| 85  | Computer Science                       | COMP6578    | Information Visualization  | 2   | 5        |
| 86  | Computer Science                       | COMP6586    | Embedded Systems   | 2   | 5        |
| 87  | Computer Science                       | COMP6681    | Web Programming  | 2/1 | 5        |
| 88  | Computer Science                       | COMP8129    | User Experience  | 2/2 | 5        |
| 89  | Computer Science                       | ISYS6197    | Business Application Development   | 2/2 | 5        |
| 90  | Animation                              | DSGN6689    | Concept Art & Production Design  | 2   | 5        |
| 91  | Animation                              | DSGN6690    | Animation Storytelling   | 2   | 5        |
| 92  | Film                                   | FILM6119    | Audiences & Fan Culture  | 4   | 5        |
| 93  | Business Information Technology        | ISYS6579    | Knowledge-Based AI: Cognitive Systems  | 4   | 5        |
| 94  | Information Systems                    | ISYS6199    | Data & Text Mining   | 4   | 5        |
| 95  | Information Systems                    | ISYS6202    | Social Informatics   | 4   | 5        |
| 96  | Information Systems                    | ISYS6289    | Collaborative Computing  | 4   | 5        |
| 97  | Information Systems                    | ISYS6402    | Business Analytics   | 2/2 | 5        |
| 98  | Information Systems                    | ISYS8066    | Business Process Management  | 4   | 5        |
| 99  | Information Systems Accounting & Audit | ISYS6608    | IT Service & Risk Management   | 2   | 5        |
| 100 | Information Systems Audit              | ISYS6050    | Information System Audit Fundamental   | 4   | 5        |

### Enrichment Track Scheme

| Track | Semester 6 |    |    |    |    |     | Semester 7 |    |    |    |    |     |
|-------|------------|----|----|----|----|-----|------------|----|----|----|----|-----|
|       | IN         | RS | EN | CD | SA | etc | IN         | RS | EN | CD | SA | etc |
| 1     | v          |    |    |    |    |     | v          |    |    |    |    |     |
| 2     |            | v  |    |    |    |     |            | v  |    |    |    |     |
| 3     |            |    | v  |    |    |     |            |    | v  |    |    |     |
| 4     |            |    |    | v  |    |     | v          |    |    |    |    |     |
| 5     |            |    |    | v  |    |     |            |    |    | v  |    |     |
| 6     |            |    |    | v  |    |     |            |    |    |    | v  |     |
| 7     |            |    |    |    | v  |     | v          |    |    |    |    |     |
| 8     |            |    |    |    | v  |     |            |    |    | v  |    |     |
| 9     |            |    |    |    | v  |     |            |    |    |    | v  |     |
| 10    |            |    |    |    |    | v   | v          |    |    |    |    |     |
| 11    |            |    |    |    |    | v   |            |    |    | v  |    |     |

|    |  |  |  |  |  |   |  |  |  |  |   |
|----|--|--|--|--|--|---|--|--|--|--|---|
| 12 |  |  |  |  |  | v |  |  |  |  | v |
|----|--|--|--|--|--|---|--|--|--|--|---|

**Notes:**

|    |                    |     |                                  |
|----|--------------------|-----|----------------------------------|
| IN | : Internship       | CD  | : Community Development          |
| RS | : Research         | SA  | : Study Abroad                   |
| EN | : Entrepreneurship | etc | : Study Program Special Purposes |

**Notes:**

Student will take one of enrichment program tracks

Students who failed in Enrichment Program I can retake with the same track or change into another track. As for Enrichment Program II, student who failed with Internship, Research, Community Development, and Study Abroad track on Enrichment Program II, can retake with the same track or change into another track. However students who take **Entrepreneurship** track on Enrichment Program II, should **retake with another track**.

**Enrichment Internship Track**

| Code                         | Course Name   | SCU | Total |
|------------------------------|---|-----|-------|
| <b>Enrichment Program I</b>  |   |     | 20    |
| MOBI6048                     | Industrial Experience   | 8   |       |
| MOBI6066                     | Mobile Application & Technology Practice in Industrial Experience   | 8   |       |
| MOBI6038                     | EES in Mobile Industry  | 4   |       |
| <b>Enrichment Program II</b> |   |     | 20    |
| MOBI6051                     | Professional Experience   | 8   |       |
| MOBI6067                     | Mobile Application & Technology Practice in Professional Experience | 8   |       |
| MOBI6053                     | Professional Development in Mobile Industry                         | 4   |       |

**Enrichment Entrepreneurship Track**

| Code                         | Course Name  | SCU | Total |
|------------------------------|--|-----|-------|
| <b>Enrichment Program I</b>  |  |     | 20    |
| ENTR6645                     | New Venture Initiation in Mobile Application                 | 8   |       |
| ENTR6646                     | Product Development Process in Mobile Application Project    | 8   |       |
| ENTR6541                     | EES in New Mobile Application and Technology Business        | 4   |       |
| <b>Enrichment Program II</b> |  |     | 20    |
| ENTR6647                     | Product Launching in Mobile Application                      | 8   |       |
| ENTR6648                     | Business Development in Mobile Application Project           | 8   |       |
| ENTR6369                     | EES in Mobile Application and Technology Business Experience | 4   |       |

**Enrichment Research Track**

| Code                        | Course Name  | SCU | Total |
|-----------------------------|--|-----|-------|
| <b>Enrichment Program I</b> |  |     | 20    |
| RSCH6245                    | Research Experience I  | 8   |       |
| RSCH6526                    | Scientific Writing in Mobile Apps and Technology Research Area I           | 8   |       |
| RSCH6459                    | Global EES I (Team Work, Communication, Problem Solving & Decision Making) | 4   |       |



| Enrichment Program II |   |   | 20 |
|-----------------------|---|---|----|
| RSCH6260              | Research Experience II  | 8 |    |
| RSCH6527              | Scientific Writing in Mobile Apps and Technology Research Area II               | 8 |    |
| RSCH6268              | Global EES II (Self-Management, Planning & Organizing, Initiative & Enterprise) | 4 |    |

### Enrichment Community Development Track

| Code                         | Course Name   | SCU | Total |
|------------------------------|---|-----|-------|
| <b>Enrichment Program I</b>  |   |     | 20    |
| CMDV6161                     | Community Outreach Project Implementation   | 8   |       |
| CMDV6308                     | Community Outreach Project Design in Mobile Applications Project                                    | 8   |       |
| CMDV6258                     | Employability and Entrepreneurial Skills in Mobile Application and Technology Community             | 4   | 20    |
| <b>Enrichment Program II</b> |   |     |       |
| CMDV6186                     | Community Development Project Implementation  | 8   |       |
| CMDV6309                     | Community Development Project Design in Mobile Application Project                                  | 8   | 20    |
| CMDV6195                     | Employability and Entrepreneurial Skills in Mobile Application and Technology Community Development | 4   |       |

### Enrichment Study Abroad Track

| Code   | Course Name                         | SCU | Total |
|--|-------------------------------------|-----|-------|
| <b>Elective courses list for study abroad*</b> |                                     |     | 20    |
| <b>Enrichment Program I</b>                    |                                     |     |       |
| GLOB6005                                       | Elective Course for Study Abroad 1  | 4   |       |
| GLOB6006                                       | Elective Course for Study Abroad 2  | 4   |       |
| GLOB6007                                       | Elective Course for Study Abroad 3  | 4   |       |
| GLOB6008                                       | Elective Course for Study Abroad 4  | 4   |       |
| GLOB6009                                       | Elective Course for Study Abroad 5  | 2   |       |
| GLOB6010                                       | Elective Course for Study Abroad 6  | 2   |       |
| GLOB6011                                       | Elective Course for Study Abroad 7  | 2   |       |
| GLOB6012                                       | Elective Course for Study Abroad 8  | 2   |       |
| GLOB6013                                       | Elective Course for Study Abroad 9  | 2   |       |
| GLOB6014                                       | Elective Course for Study Abroad 10 | 2   |       |
| GLOB6015                                       | Elective Course for Study Abroad 11 | 2   |       |
| GLOB6016                                       | Elective Course for Study Abroad 12 | 2   |       |
| GLOB6251                                       | Elective Course for Study Abroad 29 | 4   |       |
| <b>Enrichment Program II</b>                   |                                     |     | 20    |
| GLOB6017                                       | Elective Course for Study Abroad 13 | 4   |       |
| GLOB6018                                       | Elective Course for Study Abroad 14 | 4   |       |
| GLOB6019                                       | Elective Course for Study Abroad 15 | 4   |       |
| GLOB6020                                       | Elective Course for Study Abroad 16 | 4   |       |
| GLOB6021                                       | Elective Course for Study Abroad 17 | 2   |       |

| Code     | Course Name                         | SCU | Total |
|----------|-------------------------------------|-----|-------|
| GLOB6022 | Elective Course for Study Abroad 18 | 2   |       |
| GLOB6023 | Elective Course for Study Abroad 19 | 2   |       |
| GLOB6024 | Elective Course for Study Abroad 20 | 2   |       |
| GLOB6025 | Elective Course for Study Abroad 21 | 2   |       |
| GLOB6026 | Elective Course for Study Abroad 22 | 2   |       |
| GLOB6027 | Elective Course for Study Abroad 23 | 2   |       |
| GLOB6028 | Elective Course for Study Abroad 24 | 2   |       |
| GLOB6253 | Elective Course for Study Abroad 31 | 4   |       |

\*) Transferred courses will be transferred based on credit transfer policies on study program with total of 20 credit.

**Student should pass all of these quality controlled courses as listed below:**

| No. | Course Code | Course Name                          | Minimal Grade |
|-----|-------------|--------------------------------------|---------------|
| 1.  | CHAR6013    | Character Building: <i>Pancasila</i> | B             |
| 2.  | ENTR6511    | Entrepreneurship: Market Validation  | C             |
| 3.  | COMP6047    | Algorithm and Programming*           | C             |
| 4.  | COMP6048    | Data Structures                      | C             |
| 5.  | COMP6056    | Program Design Methods               | C             |
| 6.  | COMP6644    | Software Engineering                 | C             |
| 7.  | MOBI6056    | Mobile Creative Design*              | C             |
| 8.  | MOBI6006    | Mobile Community Solution*           | C             |

\*) Tutorial & Multipaper