**Generic Study Plan for BSc. in Computer Science & Software Eng.**

**Cohort fall 2018 and before - Total = 130 credit hours**

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| Year 1 - First Semester | | | | Year 1 - Second Semester | | | |
| **Course #.** | **Course Title** | **Pre-req.** | **Cr.** | **Course #.** | **Course Title** | **Pre-req.** | **Cr.** |
| ESPU1081 | ESP1 |  | 3 | MATH110 | Calculus II | MATH105 | 3 |
| MATH105 | Calculus I | - | 3 | CENG202 | Discrete Mathematics | MATH105 | 3 |
| CSBP119 | Algorithms and Prob. Solving | - | 3 | CENG205 | Digital Design & Com Org. |  | 3 |
| PHYS105 | General Physics I | - | 3 | CSBP219 | Object-Oriented Prog. | CSBP119 | 3 |
| ITBP103 | Principles of IT |  | 3 | CSBP121 | Programming Lab I | CSBP119(co) | 1 |
|  |  |  |  | GEIL101  GEIT112 | Information Literacy1 or  Fourth Industrial Revolution |  | 3 |
|  | Semester Credit Hours | | 15 |  | Semester Credit Hours | | 16 |
| **Year 2 - First Semester** | | | | **Year 2 - Second Semester** | | | |
| **Course #.** | **Course Title** | **Pre-Req.** | **Cr.** | **Course #.** | **Course Title** | **Pre-Req.** | **Cr.** |
| Elective | Cultural Elective 1 |  | 3 | CSBP315 | OS Fundamentals | CENG205 | 3 |
| BIOC100/ CHEM111 | Basic Bio. I or Gen. Chemistry |  | 3 | CSBP319 | Data Structures | CSBP219 | 3 |
| CENG210 | Comm. & Net. Fund | CEN205(co/pre) & PHYS105 | 3 | SWEB300 | Software Eng. Fundamentals | CSBP219 | 3 |
| STAT210 | Prob. & Stats | Math110 | 3 | ITBP301 | Sec. Principles and Practice | CENG210 | 3 |
| HSS105 | Emirates Society |  | 3 | CSBP221 | Programming Lab II | CSBP121 ,CSBP219 (co) | 1 |
|  | Semester Credit Hours | | 15 |  | Semester Credit Hours | | 13 |
| **Year 3 - First Semester** | | | | **Year 3 - Second Semester** | | | |
| **Course #.** | Course Title | **Pre-Req.** | **Cr.** | **Course #.** | **Course Title** | **Pre-Req.** | **Cr.** |
| CSBP316 | Human Computer Interaction | CSBP219 | 3 | CSBP461 | Internet Computing | CSBP340 | 3 |
| SWEB450 | Analysis of Algorithms | CSBP319 | 3 | CSBP400 | Modeling and Simulation | STAT210 | 3 |
| CSBP340 | Database Systems | CSBP319 | 3 | CSBP301 | Artificial Intelligence | CSBP319 | 3 |
| ITBP370 | Prof. Res. In IT | ESPU1081 | 3 | ITBP321 | Web App. Development Lab | Co/Pre CSBP340 | 1 |
| ISLM100 | Islamic Culture |  | 3 | Elective | Cultural Elective 2 |  | 3 |
|  | Semester Credit Hours | | 15 |  | Semester Credit Hours | | 13 |
| **Year 4 - First Semester** | | | | **Year 4 - Second Semester** | | | |
| **Course #.** | **Course Title** | **Pre-Req.** | **Cr.** | **Course #.** | **Course Title** | **Pre-Req.** | **Cr.** |
| CSBP411 | Machine Learning | CSBP301 | 3 | CSBPxxx | Major Elective 2 |  | 3 |
| CSBP421 | Smart Computer Graphics | CSBP319 | 3 | CSBPxxx | Major elective 3 |  | 3 |
| CSBP412 | Intro. to Engineering & Design | GEIL101& ITBP103 | 3 | CSBPxxx | Major Elective 4 | - | 3 |
| ITBP480 | Senior Graduation Project I2 | STAT210 | 3 | CSBP492 | CS project Lab | CSBP301 | 1 |
| CSBPxxx | Major elective 1 |  | 3 | ITBP481 | Senior Graduation Project II | ITBP480 | 3 |
|  |  |  |  | Elective | Cultural Elective 3 |  | 3 |
|  | Semester Credit Hours | | 15 |  | Semester Credit Hours | | 16 |
| **Year 5 - First Semester** | | | |  | | | |
| ITBP495: Internship (12 credit hours)  *(Students are not Allowed to register any additional courses during their Internship without the approval of the College)* | | | | | | | |

1Students before 2016 should register ESPU1082.

2Students must have finished 80 CrHr to register in ITBP480

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| Major electives Courses3 | Pre-req. | Major electives Courses3 | Pre-req. |
| CSBP320 Data Mining | STAT210 | **CSBP487 Computer Animation and Visualization** | CSBP319 |
| CSBP483 Mobile Web. | CSBP340 | **SWEB451 Game Development** | CSBP319 |
| CSBP499 Special Topics in CS | CSBP301 & TAT210 | **CSBP476 Robotics and Intelligent Systems** | CSBP301 |
| CSBP431 Bioinformatics | CSBP450 | **CSBP491 Computational Intel. Data Management** | CSBP319 |

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| **Cultural Elective Courses** | | | | |
| **The Global Experience (3 Cr. Hrs. )** | | | | |
|  | HIS 120 | | Arab Islamic Civilization | |
|  | HIS 125 | | Contemporary Civilizations | |
|  | AGRB 360 | | Global Agri-Food Trade | |
|  | BIOE 240 | | Principles of Environmental science | |
|  | PSG 250 | | Principles of International Relations | |
|  | GEO 200 | | World Regional Geography | |
|  | ARCH 346 | | Contemporary World Architecture | |
|  | HIS 121 | | World History: Origins to 1500 | |
| **Social and Behavioral Sciences (3 Cr. Hrs. )** | | | | |
|  | AGRB 210 | | Introduction to Agribusiness | |
|  | ECON 110 | | Principles of Economics | |
|  | HSR 140 | | Introduction to Society and Behavior | |
|  | HSR 150 | | Introduction to Government, Policy, and Urban Studies | |
|  | PSY 100 | | Introduction to Psychology | |
|  | SOC 260 | | Folklore | |
|  | SWK 200 | | Introduction to Social Welfare | |
| **Humanities/Fine Art (3 Cr. Hrs. )** | | | | |
|  | ARCH 366 | | History and Theory of Architecture | |
|  | HSR  120 | | Introduction to Heritage and Culture | |
|  | HSR  130 | | Introduction to Language and Communication | |
|  | HIS   133 | | Introduction to Art History | |
|  | LIT 150 | | Introduction to Literature | |
|  | TRS 200 | | Introduction to Translation | |
|  | MSC 200 | | Introduction to Mass Media | |
|  | MSC 240 | | World & Arab Media | |
|  | LNG 100 | | Introduction to Linguistics | |
|  | LNG 110 | | Language, Society & Culture | |
|  | PHI101 | | Introduction to Philosophy | |
|  | PHI270 | | Philosophy of Education | |
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| **Minor in AI** | | | | |
| **Required Courses** | | | | |
| **Course** | | **Title** | | **Prerequisite** |
| CSBP301 | | Artificial Intelligence | | CSBP319 |
| **Elective Courses (9 Hrs. )** | | | | |
| CSBP411 | | Machine Learning | | CSBP301 |
| CSBP476 | | Robotics and Intelligent Systems | | CSBP301 |
| CSBP441 | | Applied Computer Vision | | CSBP301 |
| CSBP491 | | Computational Intelligence for Data Management | | CSBP319 |
| CSBP499 | | Special Topics in Computer Science | | CSBP319 |