**DIPLOMA**

**in**

**Information Technology**

(Leading to Bachelor of Science in Information Technology)

**Diploma in**

**Information Technology**

**(Leading to Bachelor of Science in Information Technology)**

1. **PROGRAM DESCRIPTION**

The Diploma in Information Technology (DIT) focuses on understanding the operations and procedures in the study of Information and Communication Technology and their various sectors such as business, science, government and even the academe. The curriculum provides a wide range of programming languages, computer maintenance, systems analysis and design, software design, networks and telecommunication and web design and development. This three-year ladderized program prepares the student to become a System Analyst, Senior Programmer, and Network Specialist of User Support Specialist with the competencies, skills and attitudes needed to assure the company’s success in the use of ICT.

The Diploma IT is a three-year ladderized program that offers courses in computer programming, web development, systems analysis and design, system software development, computer networks, computer maintenance, computer graphics with multimedia, database management system, computer system administration and software applications.

**EDUCATIONAL PHILOSOPHY**

Our philosophy lies on the quality education that every individual has the right to have. With this, the institution would like to be part of serving and committing to contribute and help every students who wants to improve the quality of their life.

The institution aims to fully equip students with the knowledge and skills to cope with the needs of the international market to produce competitive, efficient, and effective workmen of our society. It continually ensures employability and productivity of young people to achieve success in life.

The primary role of EASTWOODS College of Science and Technology- 3-year Diploma Course is to train, develop and offer quality secondary education at affordable costs and the same time, offer scholarship to deserving students.

It is also called to maintain, improve and update the standard of the education by offering a holistic, dynamic program similar to the global standards to strengthen the economic growth of the province of Bataan.

Our institution focuses on empowering our studentry, through education and training, with a solid foundation of knowledge, skills and moral values necessary in the attainment of their potential enabling them to be competitive, proactive and productive citizens of our country.

**GRADUATES PROFILER**

Graduates of Diploma in Information Communication Management Technology may pursue work/employment as a Data Encoder, Computer Technician, Input Operator, IT Support Staff, Computer Operator, Data Control Analyst, Junior Programmer, Network System Support, Systems Analyst, Senior Programmer, Network Specialist and User support Specialist.

1. **Program Educational Aims**

After leaving the institution, the graduates will:

1. The program aims to prepare students to design, implement, and manage a variety of computer-based information systems.
2. The program aims to prepare students to design, implement and manage a variety of computer-based information systems.
3. Acquire and maintain a preparation for the professional practice in Computer Science and Information Technology.
4. Become globally competent, innovative, and socially and ethically responsible computing professionals engaged in life-long learning endeavors. They are capable of contributing to the country’s national development goals.
5. **Program Learning Outcomes**

At the end of the program, the graduates will be able to have:

1. Apply knowledge and mathematics, science, information technology fundamentals to defined and applied technology (IT) procedures, process, systems, or methodologies.
2. Select and apply appropriate techniques, resources, and modern IT tools
3. Communicate effectively in broadly IT activities
4. Demonstrate understanding of the societal, health, safety, legal, and cultural issues relevant to information technology practice
5. Understand the impact of information technology solutions
6. Apply professional ethics and responsibilities and norms of technology practice
7. Function effectively as an individual , and as a member or a leader in diverse technical teams
8. Demonstrate knowledge and understanding of IT management principles
9. Recognize the need for, and engage in life-long learning
10. Demonstrate the sense of patriotism both in national and global milieu
11. lead and present ideas and practical suggestion to appropriate people on how improvements could be made
12. Evaluate application of critical thinking and adjust problem solving techniques
13. Manage and evaluate workplace policies and procedures relevant to the workplace
14. Develop systems in managing and maintaining information
15. Shape and sustain strategic thinking and attitudes toward common good
16. Establish, manage and sustain OHS program relevant to the workplace
17. Develop high performing entrepreneurs
18. **Teaching Strategies**

Since TESDA has adopted the Competency Based Approach, the following are the teaching strategies to employ:

1. Project Based Development / Fabrication Approach
2. Inquiry and Discussion Approach
3. Case Analysis Approach
4. Problem – based Approach
5. Simulation/Role Play
6. Research Development Approach

The teacher / trainer in a competency – based approach is **FACILITATOR**.

1. **Competency Assessment**

Competency may be assessed through

* 1. Case studies and scenarios as a basis for discussion of issues and strategies
  2. Direct observation
  3. Competency interviewing/Oral interview and/or written test
  4. Portfolio
  5. Project or work sample
  6. Rubric

Competency maybe assessed in workplace or in simulated workplace setting.

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| --- | --- | --- | --- | --- | --- | --- |
| **Diploma in Information Technology** | | | | | | |
| (Leading to Bachelor of Science in Information Technology) | | | | | | |
| **School Year 2024-2025** | | | | | | |
|  |  |  |  |  |  |  |
| **First Year / 1st Semester** |  |  |  |  |  |  |
| **CODE** | **DESCRIPTION** | **HOURS PER WEEK** | | **UNITS** | **PRE-REQUISITES** | **RESULTANT** |
|
| **LEC** | **LAB** |
| MH 113 | Mathematics in the Modern World | 3 |  | **3** |  |  |
| SELF 113 | Understanding the Self | 3 |  | **3** |  |  |
| ANIM 113 | Animation 1(Traditional) | 2 | 3 | **2(1)** |  | Animation NCII |
| CYBER 113 | Cybersecurity | 3 |  | **3** |  |  |
| PFUND 113 | Programming Fundamentals | 3 |  | **3** |  |  |
| INTRO 113 | Introduction to Computing | 3 |  | **3** |  |  |
| CP1 113 | Computer Programming I (Basic C Language) | 2 | 3 | **2 (1)** |  |  |
| PE1 112 | Physical Education 1 | 2 |  | **2** |  |  |
| NT 113 | NSTP1 (CWTS) |  |  | **3** |  |  |
|  |  | **TOTAL** | | **25 (1)** |  |  |
| ***Exit Point:*** | *Photography NC II* |  |  |  |  |  |
| **First Year / 2nd Semester** |  |  |  |  |  |  |
| **CODE** | **DESCRIPTION** | **HOURS PER WEEK** | | **UNITS** | **PRE-REQUISITES** | **RESULTANT** |
|
| **LEC** | **LAB** |
| PHIL 123 | Readings in the Philippine History | 3 |  | **3** |  |  |
| SAM 123 | System Administrative and Maintenance | 3 |  | **3** |  |  |
| ET 123 | Ethics | 3 |  | **3** |  |  |
| CLOUD 123 | Cloud Computing | 2 | 3 | **2 (1)** |  |  |
| CP2 123 | Computer Programming 2 (Advance C Language) | 2 | 3 | **2 (1)** | CP1 113 | Game Programming NCIII |
| OFFPRO 123 | Office Productivity | 2 | 3 | **2 (1)** | INTRO 113 |  |
| SIA 123 | System Integration and Architecture | 3 |  | **3** |  |  |
| PE2 122 | Physical Education 2 | 2 |  | **2** | PE1 112 |  |
| NT 123 | NSTP2 (CWTS) | 3 |  | **3** | NT 113 |  |
|  |  | **TOTAL** | | **23 (3)** |  |  |
| ***Exit Point:*** | *Game Programming NCIII* | | | |  |  |
|  |  | | | |  |  |
| **First Year / Summer** |  |  |  |  |  |  |
| **CODE** | **DESCRIPTION** | **HOURS PER WEEK** | | **UNITS** | **PRE-REQUISITES** | **RESULTANT** |
|
| **LEC** | **LAB** |
|  | Practicum 1 - 240 Hours (OJT / Supervised Industry Learning) | 3 |  | **3** |  |  |
|  |  | **TOTAL** | | **3** |  |  |
| **Second Year / 1st Semester** |  |  |  |  |  |  |
| **CODE** | **DESCRIPTION** | **HOURS PER WEEK** | | **UNITS** | **PRE-REQUISITES** | **RESULTANT** |
|
| **LEC** | **LAB** |
| PCOM 213 | Purposive Communication | 3 |  | **3** |  |  |
| STS 113 | Science, Technology and Society | 3 |  | **3** |  |  |
| QM 213 | Quantitative Methods | 3 |  | **3** |  |  |
| CONW 223 | Contemporary World | 3 |  | **3** |  |  |
| HCI 213 | Human Computer Interaction | 3 |  | **3** |  |  |
| DSA 213 | Data Structures and Algorithms (JAVA) | 2 | 3 | **2 (1)** | CP2 123 | Programming NCIII(JAVA) |
| WEBFE 213 | Web Systems and Technologies 1 (Front End) | 2 | 3 | **2 (1)** |  |  |
| DMATH 213 | Discrete Mathematics | 3 |  | **3** |  |  |
| MAS 213 | Modeling and Simulation | 3 |  | **3** |  |  |
| PE3 212 | Physical Education 3 | 2 |  | **2** | PE2 122 |  |
|  |  | **TOTAL** | | **27 (2)** |  |  |
| ***Exit Point:*** | *Visual Graphic Design NCIII* |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Second Year / 2nd Semester** |  |  |  |  |  |  |
| **CODE** | **DESCRIPTION** | **HOURS PER WEEK** | | **UNITS** | **PRE-REQUISITES** | **RESULTANT** |
|
| **LEC** | **LAB** |
| ART 223 | Art Appreciation | 3 |  | **3** |  |  |
| RIZAL 223 | Life and Works of Rizal | 3 |  | **3** |  |  |
| INFO 223 | Information Management | 2 | 3 | **2 (1)** |  |  |
| APPD 223 | Applications Development and Emerging Technology | 3 |  | **3** | OFFPRO 123 |  |
| WEBE 223 | Web Systems and Technologies (Back End) | 2 | 3 | **2 (1)** | WEBFE 213 | Web Development NC III |
| SPI 223 | Social and Professional Issues | 3 |  | **3** |  |  |
| DBMS1 223 | Database Management System 1 (MS ACCESS) | 2 | 3 | **2 (1)** |  |  |
| PE4 222 | Physical Education 4 | 2 |  | **2** | PE3 212 |  |
|  |  | **TOTAL** | | **20 (3)** |  |  |
|  |  |  |  |  |  |  |
| ***Exit Point:*** | Web Development NC III |  |  |  |  |  |
| **Second Year / Summer** |  |  |  |  |  |  |
| **CODE** | **DESCRIPTION** | **HOURS PER WEEK** | | **UNITS** | **PRE-REQUISITES** | **RESULTANT** |
|
| **LEC** | **LAB** |
|  | Practicum 2 - 240 Hours (OJT / Supervised Industry Learning) | 3 |  | **3** |  |  |
|  |  | **TOTAL** | | **3** |  |  |
|  |  |  |  |  |  |  |
| **Third Year / 1st Semester** |  |  |  |  |  |  |
| **CODE** | **DESCRIPTION** | **HOURS PER WEEK** | | **UNITS** | **PRE-REQUISITES** | **RESULTANT** |
|
| **LEC** | **LAB** |
| IAS1 313 | Information Assurance and Security 1 | 3 |  | **3** |  |  |
| OOPL | Object-Oriented Programming Language I | 2 | 3 | **2 (1)** | CP2 123 |  |
| DBMS 313 | Database Management System 2 (ORACLE) | 2 | 3 | **2 (1)** | DBMS1 223 |  |
| PHYS 313 | College Physics | 2 | 3 | **2 (1)** |  |  |
| ITFE1 313 | Free Elective I | 3 |  | **3** |  |  |
| ITFE2 313 | Free Elective 2 (Graphics and Visual Computing) | 2 | 3 | **2 (1)** |  | Visual Graphics & Design NCIII |
| FILI1 313 | Kontektstwalisadong Komunikasyon sa Filipino | 3 |  | **3** |  |  |
| NET1 313 | Networking 1 | 3 |  | **3** |  |  |
| IPT 313 | Integrative Programming Technology | 2 | 3 | **2 (1)** |  |  |
|  |  | **TOTAL** | | **22 (5)** |  |  |
| ***Exit Point:*** | *Computer System Servicing NCII* |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Third Year / 2nd Semester** |  |  |  |  |  |  |
| **CODE** | **DESCRIPTION** | **HOURS PER WEEK** | | **UNITS** | **PRE-REQUISITES** | **RESULTANT** |
|
| **LEC** | **LAB** |
| CAP1 323 | Capstone 1 (Pre Oral Defense) | 3 |  | **3** | 3rd year 2nd sem Standing |  |
| NET2 323 | Networking 2 | 2 | 3 | **2 (1)** | NET1 313 | Computer System Servicing NCII |
| ITFE3 323 | Free Elective 3 | 2 | 3 | **2 (1)** | ITFE2 313 |  |
| ITFE4 323 | Free Elective 4 | 2 | 3 | **2 (1)** | ITFE2 313 |  |
| SAD 323 | System Analysis and Design | 3 |  | **3** |  |  |
| PMQA 323 | Project Management and Quality Assurance | 3 |  | **3** |  |  |
| FILI2 323 | Filipino sa Iba't Ibang Disiplina | 3 |  | **3** | FIL1 313 |  |
| EIA 323 | Enterprise Integration and Application | 3 |  | **3** |  |  |
| ANIM 323 | 2D Animation NC III | 2 | 1 | **2 (1)** |  |  |
| OJT | Practicum 2 - 240 Hours (OJT / Supervised Industry Learning) | 3 |  |  |  |  |
|  |  | **TOTAL** | | **26 (4)** |  |  |
|  |  |  |  |  |  |  |
| ***Exit Point:*** | 2D Animation NC III |  |  |  |  |  |
|  |  |  |  |  |  |  |
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| --- | --- | --- | --- |
| Classification/Field/Course | Minimum Hours/Week | | Minimum Credit Units |
| Lecture | Lab |
| **1. General Education Courses** |  |  |  |
| ***Languages*** |  |  | **18** |
| Purposive Communication | 3 |  | 3 |
| KOMFIL (Kontekstwalisadong Komunikasyon sa Filipino) | 3 |  | 3 |
| Art Appreciation | 3 |  | 3 |
| Arts and Humanities | 3 |  | 3 |
| Social Science and Philosophy | 3 |  | 3 |
| FILDIS (Filipino sa Iba’t Ibang Disiplina) | 3 |  | 3 |
| ***Mathematics, Natural Sciences and Technology*** |  |  | **6** |
| Mathematics in the Modern World | 3 |  | 3 |
| College Physics | 2 | 3 | 3 |
| ***Social Sciences and Communications*** |  |  | **15** |
| Life and Works of Rizal | 3 |  | 3 |
| Readings in Philippine History | 3 |  | 3 |
| Understanding the Self | 3 |  | 3 |
| Science, Technology and Society | 3 |  | 3 |
| The Contemporary World | 3 |  | 3 |
| **Sub total** |  |  | **39** |
| **3. Common Courses** |  |  |  |
| Introduction to Computing | 3 |  | 3 |
| Computer Programming 1 | 2 | 3 | 3 |
| Computer Programming 2 | 2 | 3 | 3 |
| Data Structures and Algorithms | 2 | 3 | 3 |
| Information Management | 2 | 3 | 3 |
| Applications Development & Emerging Technology | 3 |  | 3 |
| **Sub total** |  |  | **18** |
| **4. Professional Courses (BSCS/BSIT)** |  |  |  |
| Programming Fundamentals (BSCS) | 3 |  | 3 |
| Office Productivity | 2 | 3 | 3 |
| Systems Integration and Architecture (BSIT) | 3 |  | 3 |
| Cybersecurity | 3 |  | 3 |
| Discrete Mathematics (BSIT) | 3 |  | 3 |
| Human Computer Interaction (BSCS/BSIT) | 3 |  | 3 |
| Information Assurance and Security (BSCS/ BSIT) | 3 |  | 3 |
| Object Oriented Programming 1 (BSCS) | 2 | 3 | 3 |
| Database Management System 1 MS Access (BSIT) | 2 | 3 | 3 |
| Database Management System 2 Oracle (BSIT) | 2 | 3 | 3 |
| Fundamentals of Networking (BSIT) | 3 |  | 3 |
| Capstone 1 (BSIT) | 3 |  | 3 |
| Advance Networking (BSIT) | 2 | 3 | 3 |
| Object Oriented Programming 2 (BSCS) | 2 | 3 | 3 |
| Systems Analysis and Design | 3 |  | 3 |
| Social and Professional Issues (BSIT) | 3 |  | 3 |
| Project Management and Quality Assurance | 3 |  | 3 |
| Enterprise Integration and Application | 3 |  | 3 |
| Animation | 2 | 3 | 3 |
| The Entrepreneureal Mind | 3 |  | 3 |
| **Sub total** |  |  | **60** |
| **7. Elective Courses (BSCS / BSIT)** |  |  |  |
| Computer Game Ethics and Programming | 2 | 3 | 3 |
| Cloud Computing | 2 | 3 | 3 |
| Web Systems and Technologies 1 (BSIT) | 2 | 3 | 3 |
| Contact Center Services | 2 | 3 | 3 |
| Web Systems and Technologies 2 (BSIT) | 2 | 3 | 3 |
| Free Elective 1 | 3 |  | 3 |
| Free Elective 2 | 2 | 3 | 3 |
| Graphics and Visual Computing (BSCS) | 2 | 3 | 3 |
| **Sub total** |  |  | **24** |
| **11. Supervised Industry Training** |  |  |  |
| Practicum |  | 300 | 6 |
| **Sub total** |  |  | **6** |
| **3. National Service Training Program Courses** |  |  |  |
| NSTP 1 | 3 |  | 3 |
| NSTP 2 | 3 |  | 3 |
| **Sub total** |  |  | **6** |
| **4. General Elective Course** |  |  |  |
| Physical Education 1 | 2 |  | 2 |
| Physical Education 2 | 2 |  | 2 |
| Physical Education 3 | 2 |  | 2 |
| Physical Education 4 | 2 |  | 2 |
| **Sub total** |  |  | **8** |
|  |  |  |  |
| **TOTAL** |  |  | **161** |

**Annex B. Curriculum Map Matrix**

| **COURSE DESCRIPTION** | **COURSE OUTCOME** | **TEACHING & LEARNING EXPERIENCES** | **ASSESSMENT CRITERIA** | **CREDITS**  **(# OF UNITS)** |
| --- | --- | --- | --- | --- |
| **1ST YEAR-1ST SEMESTER** | | | | |
| **Mathematics in Modern World**  This course deals with basic operation on decimals, fractions, percentage, base, rate, simple and compounded interests, sales return and allowances, sales discounts, promissory notes, annuities, amortizations, depreciations and bonds. In this subject, students will be given illustrative examples where they can develop logical thinking the way specific formula is applied to a given situational problems. | At the end of the course, the students should be able to:   * **Learn** business mathematics formula such as formula for interest, annuities, sales, depreciation and bonds; * **Develop** critical thinking ability to explore on the concept of various formulas and to apply them among problems arising from business; * **Evaluate** acquired knowledge from the subject whenever they encounter related real-life problems. | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Direct observation * Oral/Written Test * Rubrics * Project or Work Sample * Demonstration | **Mathematics in Modern World**  This course deals with basic operation on decimals, fractions, percentage, base, rate, simple and compounded interests, sales return and allowances, sales discounts, promissory notes, annuities, amortizations, depreciations and bonds. In this subject, students will be given illustrative examples where they can develop logical thinking the way specific formula is applied to a given situational problems. |
| **Understanding your Self**  The course deals with the nature of identity, as well as he factors and forces that affect the development and maintenance of personal identity.  The course is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one’s self. It strives to meet this goal by stressing the integration of the personal with the academic – contextualizing matters discussed in the classroom and in the everyday experiences of students – making for better learning, to manage and improve their selves to attain a better quality of life.  The course is divided into three major parts: The first part seeks to understand the construct of the self from various disciplinary perspectives: philosophy, sociology, anthropology, and psychology – as well as the more traditional division between the East and West – each seeking to provide answers to the difficult but essential question of “What is the Self?” And raising, among others, the question: “Is there even such a construct as the self?”  The second part explores some of the various aspects that make up the self, such as the biological and material up to and including the more recent Digital Self. The third and final part identifies three areas of concern for young students: learning, goal setting, and managing stress. It also provides for the more practical application of the concepts discussed in this course and enables them the hands-on experience of developing self-help plans for self-regulated learning, goal setting, and self care. | At the end of the course, the students should be able to:   * Discuss the different representations and conceptualizations of the self from various disciplinary perspectives * Compare and contrast how the self has been represented across different disciplines and perspectives * Examine the different influences, factors, and forces that shape the self * Demonstrate critical and reflective thought in analyzing the development of one’s self and identity by developing a theory of the self * Explore the different aspects of self and identity * Demonstrate critical, reflective thought in integrating the various aspects of self and identity * Identify the different forces and institutions that impact the development of various aspects of self and identity * Examine one’s self against the different aspects of self * Understand the theoretical underpinnings for how to manage and care for different aspects of the self * Acquire and hone new skills and learning’s for better managing of one’s self and behaviors * Apply these new skills to one’s self and functioning for a better quality of life | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Direct observation * Oral/Written Test * Rubrics * Project or Work Sample * Demonstration | 3 |
| **Science, Technology, and Society**  The course deals with interactions between science and technology and social, cultural, political, and economic contexts that shape and are shaped by them.  This interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.  This course includes mandatory topics on climate change and environmental awareness. | At the end of the course, the students should be able to:  **Knowledge**   1. Articulate the impacts of science and technology on society, specifically Philippine society Page 2 of 18 Science, Technology, and Society 2. Explain how science and technology affect society and the environment and its role in nation-building 3. Analyze the human condition in order to deeply reflect and express philosophical ramifications that are meaningful to the student as a part of society 4. Define and demonstrate the impact of social media on the students’ life and Philippine society in general   **Values**   1. Imbibe the importance of science and technology in the preservation of the environment and the development of the Filipino nation 2. Critique human flourishing vis-à-vis the progress of science and technology such that the student may be able to define for himself/herself the meaning of the good life 3. Foster the value of a healthy lifestyle toward the holistic and sustainable development of society and the environment   **Skills**     1. Creatively present the importance and contributions of science and technology to society 2. Examine shared concerns that make up the good life in order to come up with innovative and creative solutions to contemporary issues guided by ethical standards 3. Illustrate how the social media and information age impact their lives and their understanding of climate change | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | 3 |
| **Cybersecurity**  This course is designed to provide an overview and understanding of established cyber security strategy as well as provide students with the opportunity to engage in strategic decision making in the context of cyber security. The course will assess current threats in varying contexts including conducting a threat or vulnerability assessment for a non-profit or government service organization, as well as evaluate current methodology and approaches to pave the way for the development and implementation of cyber security strategy at the organization or corporate level. | At the end of the course, the students should be able to:   * Evaluate the computer network and information security needs of an organization. * Assess cybersecurity risk management policies in order to adequately protect an organization's critical information and assets. * Measure the performance of security systems within an enterprise-level information system. * Troubleshoot, maintain and update an enterprise-level information security system. * Implement continuous network monitoring and provide real-time security solutions. * Formulate, update and communicate short- and long-term organizational cybersecurity strategies and policies. | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | 3 |
| **Programming Fundamentals**  This course introduces the fundamental concepts of structured programming, and provides a comprehensive introduction to programming for computer science and technology majors. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy. (This course is included in the Field of Study Curriculum for Computer Science.) | At the end of the course, the students should be able to:   * Describe how data are represented, manipulated, and stored in a computer. * Categorize different programming languages and their uses. * Understand and use the fundamental concepts of data types, structured programming, algorithmic design, and user interface design. * Demonstrate a fundamental understanding of software development methodologies, including modular design, pseudo code, flowcharting, structure charts, data types, control structures, functions, and arrays. * Develop projects that utilize logical algorithms from specifications and requirements statements. * Demonstrate appropriate design, coding, testing, and documenting of computer programs that implement project specifications and requirements. * Apply computer programming concepts to new problems or situations. | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | 3 |
| **Introduction to Computing**  This course, using both lecture and laboratory practice, introduces students to basic computer concepts in hardware, software, networking, computer security, programming, database, e-commerce, decision support systems, and other emerging technologies such as blogs, wiki, RSS, podcasting, and Google applications. Additional lectures examine social, legal, ethical issues including privacy, intellectual property, health concerns, green computing, and accessibility. Students learn techniques to search, evaluate, validate, and cite information found online. Widely used applications including word processing, spreadsheets, databases, presentation, and web development software are studied. | At the end of the course, the students should be able to:   * basic concepts of modern computers and their impact on society: * Application software Various types of computer hardware and their functions Data storage facilities * Utilization of the Internet by society today Data communications and networking * Students will also learn the basic features and be able to use: Word-processing software Spreadsheet software Presentation software. | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | 3 |
| **Computer Programming 1 (Basic Java)**  consists of competencies that a person must achieve to develop or write program codes using a personal computer or workstation as part of a systems development team. It includes core competencies on programming language on Java, such as to develop command-line/console and desktop applications and to develop enterprise/web applications using Java technology. | At the end of the course:  participants should be equipped with sufficient knowledge to take and pass the internationally acknowledged Oracle Java SE Certified Associate and Certified Professional Exam and participant will be awarded with an Oracle Certified Professional Java Programmer | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | 3 |
| **Physical Education 1**  This course covers the principles and practices of fitness, sports, and recreation. Practical sessions involving fitness testing and various fitness programs. | At the end of the course, the students should be able to:   * **Understand** how systematic exercise and physical activity stimulates changes that are beneficial in the body * **Understand** how physical activity and exercises for fitness reduce the risk of many diseases and helps us deal with stress while reducing anxiety and depression * **Explain** the basics components of fitness * **Observe** safety measures in the course of performing different fitness tests * **Perform** exercises and activities that will enhance cardiovascular and muscular fitness * **Demonstrates** understanding of the benefits of skill and health related activities * **Develop** a personal fitness program based on age, fitness level and goals, and   prepare for athletic competition safely and effectively | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Video presentation/film viewing * Demonstration | * Direct observation * Oral/Written Test * Project or Work Sample * Rubrics * Demonstration | 2 |
| **NSTP 1 National Service Training Program**  This course is pursuant to Republic Act No. 9163, otherwise known as the National Service Training Act of 2001, which mandates tertiary educational institutions to incorporate in the collegiate curriculum a program aimed at “enhancing civic consciousness and defense preparedness in the youth by developing the ethics of service and patriotism while undergoing training in any of its three (3) program components, namely Civic Welfare Training Service (CWTS), Literacy Training Service (LTS) and Reserved Officers Training Course (ROTC). | At the end of the course, the students should be able to:   * **Develop** and **promote** civic consciousness, enhance the intellectual, physical, moral, spiritual, and social being of the students. * **Inculcate** among the students the ideals of patriotism and nationalism and advance their involvement in public and civic affair * **Instill** moral values among the students, respect for the rights of civilians and adherence to the constitution. | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Direct observation * Oral/Written Test * Rubrics * Project or Work Sample * Demonstration | 3 |
| **1ST YEAR-2ND SEMESTER** | | | | |
| **Readings in Philippine History**  This course dwells on the study of important events, places, dates, and persons that had conclusively marked a big significance in the  making of so the called Philippine History. Moreover, the study highlights the country’s setting as it exceeds through so  cial, cultural, economic, and political evolution brought by foreign influences in the face colonization and territorial dominion. Additionally, the progression of the Philippine Republic and its partaking inthe national and global affairs will be deliberately conversed at the concluding pieces of the course | At the end of the course, the students should be able to:     * Gathered information about Philippine History marked by important events, places, dates and persons forming the growth of societies and distinction ofculture2. * Understood the internal and external pressures involved in the transition of societies and culture found in the country at different periods of time3. * Appreciated the accomplishments of fellow countrymen for the welfare of the nation4. * Realized and avoid the mistakes committed in the past to guide the present and prepare the future5. * Developed a sense of identity and pride in being a Filipino | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | 3 |
| **System Administrative and Maintenance**  This course is a combination of lecture and hands-on exercises. It provides basic information and steps necessary to administer the Windows 2000 environment, define and maintain user identification, and backup and restore Spectrum PowerCC system data. | At the end of the course, the students should be able to:   * Describe the relationship between Windows 2000 administration and the administration of the PowerCC environment * Setup and administer the PowerCC security system * Control and parameterize the PowerCC required system services * Install Microsoft Windows 2000 on a PowerCC serve | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | 3 |
| **ETHICS**  This course is an introduction to moral philosophy and is intended for the student who has little or no prior exposure to philosophy. It provides a broad but reasonably detailed examination of the central issues of moral philosophy and also considers how these can be applied to several contemporary moral problems. | At the end of the course, the students should be able to:   * Recognize the philosophical assumptions that are embedded in moral ideas and in philosophical works in order to define one’s moral responsibility in contemporary society. * Reflect on and evaluate ethical arguments from diverse sources in order to communicate effectively with others who might have a different opinion from one’s own. * Recognize and reflect on the interconnectedness of and the historical development of moral ideas in order to be conscious of the historical context of moral argumentation and its significance in our culture and the culture of others. | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | 3 |
| **Cloud Computing**  The course presents a top-down view of cloud computing, from applications and administration to programming and infrastructure. Its main focus is on parallel programming techniques for cloud computing and large-scale distributed systems which form the cloud infrastructure. The topics include: overview of cloud computing, cloud systems, parallel processing in the cloud, distributed storage systems, virtualization, security in the cloud, and multicore operating systems. Students will study state-of-the-art solutions for cloud computing developed by Google, Amazon, Microsoft, Yahoo, VMWare, etc. Students will also apply what they learn in one programming assignment and one project executed over Amazon Web Services. | At the end of the course, the students should be able to   * Analyze the trade-offs between deploying applications in the cloud and over the local infrastructure. * Compare the advantages and disadvantages of various cloud computing platforms. * Deploy applications over commercial cloud computing infrastructures such as Amazon Web Services, Windows Azure, and Google AppEngine. * Program data intensive parallel applications in the cloud. * Analyze the performance, scalability, and availability of the underlying cloud technologies and software. * Identify security and privacy issues in cloud computing. * Explain recent research results in cloud computing and identify their pros and cons. * Solve a real-world problem using cloud computing through group collaboration. | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Video presentation/film viewing * Demonstration | * Direct observation * Oral/Written Test * Project or Work Sample * Rubrics * Demonstration | 3 |
| **Computer Programming 2 (Advance C Language)**  consists of competencies that a person must achieve to develop or write program codes using a personal computer or workstation as part of a systems development team. It includes core competencies on programming language on Java, such as to develop command-line/console and desktop applications and to develop enterprise/web applications using Java technology. | At the end of the course:  participants should be equipped with sufficient knowledge to take and pass the internationally acknowledged Oracle Java SE Certified Associate and Certified Professional Exam and participant will be awarded with an Oracle Certified Professional Java Programmer | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | 2 (1) |
| **Office Productivity**  Using project-based instruction, students are introduced to the Basic principles of Business in the 21st century while introducing or refreshing keyboarding skills. This course will also help students to use computer effectively in their lives thus providing a connection from computer applications to Business Careers. | At the end of the course, the students should be able to:   * Enhance on your existing skills using Microsoft Office® i.e., produce professional documents, powerful presentations, spread sheets * Write effective documents and reports and produce professional documents using the functions of MS Word * Plan an effective presentation and complement it with a professional MS PowerPoint presentation * Keep track of your budget and understand the importance of managing your finances by using MS Excel to keep track. * Save time and be productive using time management techniques by using MS Outlook i.e. email, tasks, to-do list and calendars | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Video presentation/film viewing * Demonstration | * Direct observation * Oral/Written Test * Project or Work Sample * Rubrics * Demonstration | 2 (1) |
| **System Integration and Architecture**  This course studies the process of integrating different systems and software applications by examining current and emerging trends, strategies, and techniques for developing systems integration solutions effectively. Example topics covered include, but are not limited to: documenting integration requirements using business process models, designing integration solutions reusing patterns, and implementing integration solutions using service oriented architecture. Students will extend course topics via library assignments, programming assignments, tool evaluation assignments, and other assigned activities. | At the end of the course, the students should be able to:   * Explain key challenges, concepts, drivers, and strategies related to systems integration projects * Explain and apply organizational and managerial issues related to systems integration projects * Explain and apply key systems integration architecture, methodologies, and technologies * Identify and assess current and emerging systems integration tools * Define and analyze systems integration requirements using business process models * Design feasible solutions for an integration problem that utilizes proven design solutions described in integration patterns * Apply advanced integration technologies to implement system integration solutions * Prepare a research paper and deliver professional presentation on fundamental concepts studied in the course | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Video presentation/film viewing * Demonstration | * Direct observation * Oral/Written Test * Project or Work Sample * Rubrics * Demonstration | 3 |
| **Physical Education 2**  This course introduces the art and sport of dancing and to provide the necessary skills and understanding for an appreciation of the artistic, athletic, and social qualities of dance. Throughout the course, students will learn various concepts surrounding dance including culture, etiquette, and application in social settings as well as several different styles of dance and the rhythms and types of music to which they are danced. | At the end of the course, the students should be able to:   * **Develop** an appreciation towards the different dances * **Learn** the basics of the different dance styles * **Introduce** both artistic and athletic aspects of the dance * **Develop** confidence in one's movement * **Learn** techniques and skills for overall balance and rhythm * **Exercise** muscles and develop controlled movement * **Establish** a connection between movement and music * **Develop** body coordination | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Video presentation/film viewing * Demonstration | * Direct observation * Oral/Written Test * Project or Work Sample * Rubrics * Demonstration | 2 |
| **National Service Training Program 2**  This course is designed to immerse students in activities that will arm them the capability to contribute in the upliftment of the general welfare and the quality of life of the community and the enhancement of its facilities especially those that are devoted to improving the health, environment, entrepreneurship, safety, recreation, and morale of the citizen. | At the end of the course, the students are expected to   * **Participate** actively in teambuilding activities * **Manifest** effective leadership/fellowship skills * **Organize** community assemblies and linkages * **Assist** in the implementation of civic welfare projects * **Determine** the community problems and concerns and plan some viable intervention measures * **Show** a high level of interest in community building tasks * **Develop** a harmonious working relationship with the community * **Appreciate** the values of community immersion as a means of developing themselves as trainees and helping other people improve their way of life through the different dimensions of development * done in the locality | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Direct observation * Oral/Written Test * Rubrics * Project or Work Sample * Demonstration | 3 |
| **1ST YEAR-3RD SEMESTER** | | | | |
| **PRACTICUM 1 (150 HOURS)** |  |  |  | 3 |

| **COURSE DESCRIPTION** | **COURSE OUTCOME** | **TEACHING & LEARNING EXPERIENCES** | **ASSESSMENT CRITERIA** | **CREDITS**  **(# OF UNITS)** |
| --- | --- | --- | --- | --- |

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| --- | --- | --- | --- | --- | --- | --- |
| **Purposive Communication**  Purposive communication is about writing, speaking, and presenting to different audiences and for various purposes.  It develops students’ communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. The knowledge, skills, and insights that students gain from this course may be used in their other academic endeavors, their chosen disciplines, and their future careers as they compose and produce relevant oral, written, audio-visual and/or web based output for various purposes. | | At the end of the course, the students should be able to:   * **Describe** the nature, elements, and functions of verbal and non-verbal communication in various and multicultural contexts. * **Explain** how cultural and global issues affect communication. * **Appreciate** the impact of communication on society and the world * **Determine** culturally appropriate terms, expressions and images. * **Adopt** cultural and intercultural awareness and sensitivity in communication of ideas   **Evaluate** multimodal texts critically to enhance receptive   * skills. * **Convey** ideas through oral, audio-visual, and/or web-based presentations for different target audiences in local and global settings using appropriate registers * **Adopt** awareness of audience and context in presenting ideas * **Create** clear, coherent, and effective communication materials * **Present** ideas persuasively using appropriate language registers, tone, facial expressions, and gestures * **Write** and **present** academic papers using appropriate tone, style, conventions, and reference styles | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach   Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics   Demonstration | |  |
| **Quantitavie Mehods**  This module introduces students to quantitative research methods in the  social sciences by covering the basics of what is required for those considering a career involving data analytics. It assumes no knowledge of quantitative methods or statistical software. The course caters for students from diverse academic disciplines and adopts a practical hands-on approach to learning, with tutor supported computer tutorials. The course covers descriptive statistics, data visualisation, data access, probability, sampling, hypothesis testing, inferential statistics and ends with an introduction linear regression. Students will be introduced to the R statistical software and work with data used in current academic research. | |  | elements of both group and individuals  elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach   Demonstration |  | |  |
| **The Contemporary World**  This course introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of peoples and places around the globe. To this end, the course provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility. | | At the end of the course, the students should be able to:  **A. Competencies**   * 1. Distinguish different interpretations of and approaches to globalization   2. Describe the emergence of global economic, political, social, and cultural systems   3. Analyze the various contemporary drivers of globalization   4. Understand the issues confronting the nation-state Page 2 of 3 The Contemporary World   5. Assess the effects of globalization on different social units and their responses   **B. Skills**   1. Analyze contemporary news events in the context of globalization 2. Analyze global issues in relation to Filipinos and the Philippines 3. Write a research paper with proper citations on a topic related to globalization   **C. Values**   1. Articulate personal positions on various global issues   Identify the ethical implications of global citizenship. | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach   Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | |  |
| **Human Computer Interaction**  Human-computer interaction is an interdisciplinary field that integrates theories and methodologies from computer science, cognitive psychology, design, and many other areas. The course is intended to introduce the student to the basic concepts of human-computer interaction. It will cover the basic theory and methods that exist in the field. The course will unfold by examining design and evaluation. Case studies are used throughout the readings to exemplify the methods presented and to lend a context to the issues discussed. The students will gain principles and skills for designing and evaluating interactive systems. | | At the end of the course, the students should be able to:   * understand the basics of human and computational abilities and limitations. * understand basic theories, tools and techniques in HCI. * understand the fundamental aspects of designing and evaluating interfaces. * practice a variety of simple methods for evaluating the quality of a user interface. * apply appropriate HCI techniques to design systems that are usable by people. | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach   Demonstration | | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics   Demonstration | 3 |
| **Data Structures and Algorithms**  The program is a combination of exercises, machine problems, cases and exams that will ensure that the participants gain experience in developing in a commercial environment. The CECSD – Oracle will address the needs of industry for well-trained Oracle developers who can build web applications and who have a good grasp of the requirements and environment for enterprise systems development. | At the end of the course, the students should be able to:   * Understand the various stages of the systems development process and basics of logic formulation. * Manipulate relational databases through SQL statements and relational constructs. * Build screens with the necessary application-level validation and navigation controls. * Design tabular and other reports using the report layout and utilizing PL/SQL for procedural control.   Apply knowledge of Forms and Reports to customize modules for Oracle E-Business Suite. | | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach   Demonstration | | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics   Demonstration | 3 |
| **Web Systems and Technologies 1 (Front End)**  consists of competencies that a person must achieve to develop websites for hosting via intranet or Internet. It includes competencies for web design, content development, client-side/server-side scripting and website security configuration, among other tasks. | At the end of the course, the students should be able to:   * Develop and implement solutions to problems encountered in all phases of the design process. * Create visual communications through the application of design theories and principles to develop effective design solutions. * Apply typographic skills and knowledge to create effective visual communications. * Apply a variety of technologies to create, capture, and manipulate design elements in producing a final product. * Communicate effectively, credibly, and accurately with clients, supervisors, coworkers, and target audiences. * Apply effective business practices and project management skills appropriate to his/her position in the web design field. * Develop personal and professional strategies and plans to improve job performance and professional relationships with clients, coworkers, and supervisors. | | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach   Demonstration | | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics   Demonstration | 3 |
| **Discrete Mathematics**  This course covers elementary discrete mathematics for computer science and engineering. It emphasizes mathematical definitions and proofs as well as applicable methods. Topics include formal logic notation, proof methods; induction, well-ordering; sets, relations; elementary graph theory; integer congruences; asymptotic notation and growth of functions; permutations and combinations, and counting principles. | At the end of the course, the students should be able to:   * use correctly the classical notions of logic : implications, equivalence, negation, proof by contradiction, proof by induction, quatificators. * use set theory : union, intersection, complementary, maps, bijection, injection, surjection. * know the main formulas in combinatorics : enumerations of subsets, enumerations of injections, surjections, bijections. * know some elementary algorithms : searching algorithms, sorting, greedy algorithms, and their complexity. * know the main definitions, some classical theorems on graphs and apply graphs in concrete situations. | | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach   Demonstration | | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics   Demonstration |  |

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**Annex C. CURRICULUM MAP ALIGNING COURSE OUTCOME and PROGRAM LEARNING OUTCOME**

| **COURSE** | **COURSE DESCRIPTION**  **(Content)** | **TOPICS (Modules)** | **Course Outcome (Competency)** | **TEACHING AND LEARNING EXPERIENCES** | **ASSESSMENT CRITERIA** | **DURATION** |
| --- | --- | --- | --- | --- | --- | --- |
| **1st YEAR- 1st SEMESTER** | | | | | | |
| **Mathematics in Modern World** | This course deals with basic operation on decimals, fractions, percentage, base, rate, simple and compounded interests, sales return and allowances, sales discounts, promissory notes, annuities, amortizations, depreciations and bonds. In this subject, students will be given illustrative examples where they can develop logical thinking the way specific formula is applied to a given situational problems. | 1. Percents (Percentage, Base and Rate) 2. Ratio and proportion 3. Conversion of Units 4. Simple Interest 5. Compounded Interest 6. Simple Discounts 7. Purchase and Inventory 8. Ordinary Annuity 9. Methods of amortization 10. Types of sinking funds 11. Bond Premiums and Discounts | * Learn business mathematics formula such as formula for interest, annuities, sales, depreciation and bonds; * Develop critical thinking ability to explore on the concept of various formulas and to apply them among problems arising from business; * Evaluate acquired knowledge from the subject whenever they encounter related real-life problems. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | 54 hours/sem |
| **Understanding your Self** | The course deals with the nature of identity, as well as the factors and forces that affect the development and maintenance of personal identity.  The course is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one’s self. It strives to meet this goal by stressing the integration of the personal with the academic – contextualizing matters discussed in the classroom and in the everyday experiences of students – making for better learning, to manage and improve their selves to attain a better quality of life.  The course is divided into three major parts: The first part seeks to understand the construct of the self from various disciplinary perspectives: philosophy, sociology, anthropology, and psychology – as well as the more traditional division between the East and West – each seeking to provide answers to the difficult but essential question of “What is the Self?” And raising, among others, the question: “Is there even such a construct as the self?”  The second part explores some of the various aspects that make up the self, such as the biological and material up to and including the more recent Digital Self. The third and final part identifies three areas of concern for young students: learning, goal setting, and managing stress. It also provides for the more practical application of the concepts discussed in this course and enables them the hands-on experience of developing self-help plans for self-regulated learning, goal setting, and self-care. | 1. The Self from Various Perspectives   Mead and the social self  The Self embedded in culture  The Self as Proactive and Agentic  The Self in Western/Eastern Oriental Thought   1. Unpacking the Self   The Physical Self  Sexual Self  The Material/Economic Self  The Spiritual Self  The Political Self  The Digital Self   1. Managing and Caring for the Self   Learning to be a better student  Setting goals for success  Taking charge of one’s health | Discuss the different representations and conceptualizations of the self from various disciplinary perspectives  Compare and contrast how the self has been represented across different disciplines and perspectives  Examine the different influences, factors, and forces that shape the self  Demonstrate critical and reflective thought in analyzing the development of one’s self and identity by developing a theory of the self  Explore the different aspects of self and identity  Demonstrate critical, reflective thought in integrating the various aspects of self and identity  Identify the different forces and institutions that impact the development of various aspects of self and identity  Examine one’s self against the different aspects of self  Understand the theoretical underpinnings for how to manage and care for different aspects of the self  Acquire and hone new skills and learnings for better managing of one’s self and behaviors  Apply these new skills to one’s self and functioning for a better quality of life | Inquiry and Discussion Approach  Video presentation/film viewing  Case studies approach  Problem based approach  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **54 hours/sem** |
| **Science, Technology and Society** | The course deals with interactions between science and technology and social, cultural, political, and economic contexts that shape and are shaped by them.  This interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.  This course includes mandatory topics on climate change and environmental awareness. | * 1. General Concepts and STS Historical Development.   Historical Antecedents in the Course of Science and Technology  Intellectual Revolution  Science and Technology and Nation Building   * 1. Science, Technology and Society and the Human Condition   The Human Person Flourishing in terms of Science and Technology  Technology as a Way of Revealing  The Good Life  When technology and humanity cross   * 1. Special Issues in Science, Technology and Society   Information Age  Biodiversity and the Health Society  The Nanoworld  The aspects of Gene Therapy  Climate Change (Mandated Topic) | Students will be able to connect science and technology to real-world problems by explaining how science relates to problems of societal concern; be able to distinguish between sound and unsound interpretations of scientific information; employ cogent reasoning methods in their own examinations of problems and issues; and understand the applications of science and technology in societal context.  Ensure the student understands how profoundly scientific and technological developments affect society and the environment  Pertains to the natural and physical worlds, meant to develop an understanding of human interventions in those worlds and their impact on societies  Focus on historical or contemporary applications of scientific knowledge and their effects.  Examine issues such as the impact of technological advances on work, recreation, communication, economic systems, relationships, health, privacy, and environmental sustainability, among other things. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **54 hours/sem** |
| **Cyber security** | This course is designed to provide an overview and understanding of established cyber security strategy as well as provide students with the opportunity to engage in strategic decision making in the context of cyber security. The course will assess current threats in varying contexts including conducting a threat or vulnerability assessment for a non-profit or government service organization, as well as evaluate current methodology and approaches to pave the way for the development and implementation of cyber security strategy at the organization or corporate level. | * Core Security Principles * Malware and Social Engineering * User Authentication and * Audit Policies and Network Auditing * Protecting Clients and Servers * Protecting a Network * Wireless Security * Physical Security * Enforcing Confidentiality with Encryption, Certificates and PKI | 1. Describe the role of computers and networks in a security context; 2. Identify computer system threats and evaluate their impact; 3. Discuss the effectiveness of various cryptographic techniques and their impact on security; 4. Develop basic organizational security policies; and 5. Demonstrate how defense in depth can be used to implement security. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration |  |
| **Programming Fundamentals** | This course introduces the fundamental concepts of structured programming, and provides a comprehensive introduction to programming for computer science and technology majors. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy. (This course is included in the Field of Study Curriculum for Computer Science.) | Systems Development Life Cycle  Program Design  Program Quality  Pseudocode  Flowcharts  Software testing  Integrated Development Environment  Version Control  Input and Output  Hello World   * + C Language Examples   Key Terms and References | The students will be able to:  Understand key terms and definitions of Programming Fundamentals.  Create pseudocode for a programming problem.  Create a flowchart for a programming problem.  Perform software testing for a programming problem.  List the four categories and give examples of errors that may be encountered when using an Integrated Development Environment (IDE).  Test an Integrated Development Environment using a Hello World program.  Modify an existing program to meet given requirements. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **54 hours/sem** |
| **Introduction to Computing** | This course, using both lecture and laboratory practice, introduces students to basic computer concepts in hardware, software, networking, computer security, programming, database, e-commerce, decision support systems, and other emerging technologies such as blogs, wiki, RSS, podcasting, and Google applications. Additional lectures examine social, legal, ethical issues including privacy, intellectual property, health concerns, green computing, and accessibility. Students learn techniques to search, evaluate, validate, and cite information found online. Widely used applications including word processing, spreadsheets, databases, presentation, and web development software are studied**.** | LO1. Industry in the Profession  Appreciation of Computing in Different Fields  Different Specialization  LO2. Evolution of Computing  Key Components of a Computer System, Operating Systems  Malware  Computer Security  Networks, Internet, and Internet Protocols  LO3. HTML and CSS  Computer Systems (Organization and Architecture) | Upon completing requirements for this course, the student will be able to:  Identify the basic elements required in a computer system.  Produce electronic documents using various software applications.  Illustrate the role of the computer for personal and professional uses. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **54 hours/sem** |
| **Computer Programming 1 (Basic Java)** | consists of competencies that a person must achieve to develop or write program codes using a personal computer or workstation as part of a systems development team. It includes core competencies on programming language on Java, such as to develop command-line/console and desktop applications and to develop enterprise/web applications using Java technology. | Module 1: Introduction  Module 2: Data and Expressions  Module 3: Using Classes and Objects  Module 4: Conditionals and Loops  Module 5: Writing Classes  Module 6: Arrays  Module 7: Recursion | Upon the completion of this course, students will be able to:   * Demonstrate sound techniques for designing, developing, and documenting well-structured programs using software-engineering principles. * Illustrate fundamental programming aspects through the Java programming language. * Apply problem-solving skills that will provide a foundation for more advanced programming courses using an OOP (object-oriented programming) methodology. * Implement basic programming logic in Java, including declaring variables, arithmetic, decisions, and iterative loops. | Inquiry and Discussion Approach  Video presentation/film viewing/Actual Presentation  Demonstration | Direct observation  Oral/Actual Test/Presentation  Project/work sample  Rubrics  Demonstration | **90 hours/sem** |
| **PHYSICAL EDUCATION 1** | This course covers the principles and practices of fitness, sports, and recreation. Practical sessions involving fitness testing and various fitness programs | 1. Physical Fitness Testing 2. Physical Fitness Testing – Health Related Components 3. Physical Fitness Testing – Skill Related Components 4. Group Games for Fitness 5. Improving Physical Fitness | Understand how systematic exercise and physical activity stimulates changes that are beneficial in the body  Understand how physical activity and exercises for fitness reduce the risk of many diseases and helps us deal with stress while reducing anxiety and depression  Explain the basics components of fitness  Observe safety measures in the course of performing different fitness tests  Perform exercises and activities that will enhance cardiovascular and muscular fitness  Demonstrates understanding of the benefits of skill and health related activities  Develop a personal fitness program based on age, fitness level and goals, and prepare for athletic competition safely and effectively | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **36 hours/sem** |
| **NATIONAL SERVICE TRAINING PROGRAM 1** | This course is pursuant to Republic Act No. 9163, otherwise known as the National Service Training Act of 2001, which mandates tertiary educational institutions to incorporate in the collegiate curriculum a program aimed at “enhancing civic consciousness and defense preparedness in the youth by developing the ethics of service and patriotism while undergoing training in any of its three (3) program components, namely Civic Welfare Training Service (CWTS), Literacy Training Service (LTS) and Reserved Officers Training Course (ROTC).” | 1. Introduction to Institution’s Vision, Mission and Goals Statement 2. How to be a successful student 3. Orientation on RA 9163 and its implementing rules and regulations 4. Service-Learning Leadership 5. Theories and Styles of Leadership 6. Drug and Substance Abuse Prevention Control 7. Environmental Education 8. Contagious Disease 9. Disaster Management and Preparedness 10. Alcoholism 11. Major Health Consequences of Smoking and Cancer 12. Definition of First Aid | Develop and promote civic consciousness, enhance the intellectual, physical, moral, spiritual, and social being of the students.  Inculcate among the students the ideals of patriotism and nationalism and advance their involvement in public and civic affair  Instill moral values among the students, respect for the rights of civilians and adherence to the constitution. | Inquiry and Discussion Approach  Video presentation/film viewing  Case studies approach  Problem based approach  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | 54 hours/sem |
| **1st YEAR – 2nd SEMESTER** | | | | | | |
| **READINGS IN THE PHILIPPINE HISTORY** | This course dwells on the study of important events, places, dates, and persons that had conclusively marked a big significance in the  making of so the called Philippine History. Moreover, the study highlights the country’s setting as it exceeds through so  cial, cultural, economic, and political evolution brought by foreign influences in the face colonization and territorial dominion. Additionally, the progression of the Philippine Republic and its partaking inthe national and global affairs will be deliberately conversed at the concluding pieces of the course | Meaning and relevance of history; distinction of primary and secondary sources; external and internal criticism; repositories of primary sources, and different kinds of primary sources.  Content and context analysis of selected primary sources; identification of the historical importance of the text; and examination of the author’s main argument and point of view.  “One past but many histories”: controversies and conflicting views in the Philippine history   * 1. Site of the First Mass   2. Cavite Mutiny   3. Retraction of Rizal   4. Cry of Balintawak or Pugadlawin   Social, political, economic, and cultural issues in Philippine history mandated topics:   * 1. Agrarian Reform Policies   2. The Philippine Constitution: 1899 (Malolos) Constitution; 1935 Constitution; 1973 Constitution; 1987 Constitution   3. Taxation   Critical evaluation and promotion of local and oral history, museums, historical shrines, cultural performances, indigenous practices, religious rites and rituals, etc. | At the end of the course, students should be able to:   * 1. Evaluate primary sources for their credibility, authenticity, and provenance.   2. Analyze the context, content, and perspective of different kinds of primary sources.   3. Determine the contribution of different kinds of primary sources in understanding Philippine History.   4. Develop critical and analytical skills with exposure to primary sources.   5. Demonstrate the ability to use primary sources to argue in favor or against a particular issue.   6. Effectively communicate, using various techniques and genres, their historical analysis of a particular event or issue that could help others understand the chosen topic.   7. Propose recommendations/solutions to present-day problems based on their understanding of root causes and their anticipation of future scenarios.   8. Display the ability to work in a team and contribute to a group project.   9. Manifest interest in local history and concern in promoting and preserving our country’s national patrimony and cultural heritage. | Lecture/Discussion  Library/Museum and Archives visitation  Comparative analysis of primary and secondary sources  Library Research/Textual Analysis/Document Analysis  Small group discussion  Reporting  Film Analysis  Debate, round table discussion or symposium  Documentary Film Showing  Conduct Oral Interview | Produce examples of primary sources and the corresponding secondary sources derived from them  Graded reporting  Quizzes  Critical Essay about a particular source  Reaction/Reflection paper on a sponsored activity like lecture.  Blogs  Transcript of oral interview | **54 hours/sem** |
| **SYSTEM ADMINISTRATIVE AND MAINTENANCE** | This course is a combination of lecture and hands-on exercises. It provides basic information and steps necessary to administer the Windows 2000 environment, define and maintain user identification, and backup and restore Spectrum PowerCC system data. | **Competency 1** The student will install servers by examining, creating, installing network cables, setting up, acquiring and installing, testing and ensuring the proper disposal of hardware.  **Competency 2**  The student will configure servers by installing, implementing, configuring services, configuring servers for top performance, setting up, determining best way to segment the network, implementing security policy for computers and devising a plan for incorporating new processes, protocols, and equipment to existing server systems.  **Competency 3**  The students will troubleshoot server problems by determining potential hardware compatibility issues, examining, troubleshooting servers, examining the steps, creating test case, reviewing server and documenting all errors as they are identified and evaluating problem resolution to ensure optimal solution(s) are implemented.  **Competency 4**  The student will manage the server and implement solution by reviewing and analyzing threats, ensuring the resources, performing audits, resolving common server problems, performing preventive maintenance, setting up remote connectivity, verifying that the DNS is optimized, documenting all errors and reviewing bandwidth usage to ensure that projected volumes can be processed efficiently.  **Competency 5**  The student will perform back-up and recovery by restoring the LAN OS, explaining the purpose of a network, identifying the key decisions, researching and backup system, comparing and contrasting alternative, implementing a comprehensive plan, configuring a shadow copy, using the built-in functionality of a serve OS, and ensuring the proper disposal of hardware.  **Competency 6**  The student will perform system preventive maintenance by defining key areas, creating a preventive maintenance log, reviewing server error logs, using visual indicator, evaluating the steps necessary to perform preventive maintenance, and optimizing the DNS.  **Competency 7**  The student will evaluate and implement security solutions for the network by researching, designing, implementing security controls, managing and implementing critical software, verifying the security procedures, installing, configuring and monitoring and IDS, interpreting security logs, preparing the correct response, examining security features included in software programs and operating systems, used on networks.  **Competency 8**  The student will create a sustainable knowledge base for the enterprise network by documenting the network, maintaining and interpreting the error, performing a network baseline, performing and audit, and monitoring the volume and bandwidth used on the network during regular and peak time periods and documenting the results, including performance issues encountered.  **Competency 9**  The student will integrate virtualized resources and network storage capacity in an enterprise network by examining the benefits, concept and storage networking protocols. Selecting network, installing, configuring, and maintaining virtualized server software OS. Creating virtual drives. Installing, configuring, troubleshooting and maintaining shared network storage sources. Maintaining virtualized systems and troubleshooting system errors with virtualization tools. Performing audits and maintaining documentation of virtualized resources. | * Understand the concepts and theories for system administration and the professional roles and responsibilities of different users / administrators. * Understanding the need for, adding, removing, and managing user accounts. * A practical use of Linux shell commands for system administration. * Server administration including general management, network configuration, firewalls, database servers, file shares, web servers, DNS, and system monitoring. * Backing up and restoring data. * Practical understanding of process lists and resources. Understanding resources (filesystem, CPU). Monitoring users on server. Knowing when a system requires maintenance. * Maintenance contracts. Deployment. Ethics. Understanding risks of performing an action. Automating routine tasks. Applying service packs and patches. System logs. * Introduction to data protection and information security relating to system administration. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **54 hours/sem** |
| **ETHICS** | This course is an introduction to moral philosophy and is intended for the student who has little or no prior exposure to philosophy. It provides a broad but reasonably detailed examination of the central issues of moral philosophy and also considers how these can be applied to several contemporary moral problems. | The Moral Agent  The Act  Framework and Principles Behind our Moral Disposition  Ethics through thick and thin  Ethics and Religions | At the end of the course, the students should be able to:   * **Differentiate** moral and non-moral problems * **Describe** what a moral experience is as it happens in different human existence. * **Describ**e the element of moral development and moral experience   **Understand and internalize** the principles of ethical behavior in modern society at the level of the person, society and in interaction with the environment and other shared resources. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **54 hours/sem** |
| **CLOUD COMPUTING** | The course presents a top-down view of cloud computing, from applications and administration to programming and infrastructure. Its main focus is on parallel programming techniques for cloud computing and large scale distributed systems which form the cloud infrastructure. The topics include: overview of cloud computing, cloud systems, parallel processing in the cloud, distributed storage systems, virtualization, security in the cloud, and multicore operating systems. Students will study state-of-the-art solutions for cloud computing developed by Google, Amazon, Microsoft, Yahoo, VMWare, etc. Students will also apply what they learn in one programming assignment and one project executed over Amazon Web Services. | **Unit 1**   * + What is Cloud Computing?   **Unit 2**   * + Infrastructure as a Service (IaaS)   **Unit 3**   * + Platform as a service (PaaS)   **Unit 4**   * + Software as a Service (SaaS)   **Unit 5**   * + Serverless, Function as a Service (FaaS)   **Unit 6**   * + Deployment models   **Unit 7**  Adoption | * Understand key concepts relating to cloud computing * Recognize the features, benefits, examples, and limitations of Infrastructure as a Service (IaaS) * Recognize the features, benefits, limitations and provide examples of Platform as a Service (PaaS) * Recognize the features, benefits, limitations and provide examples of Software as a Service (SaaS) * Identify features and examples of Function as a Service (FaaS) * Know about the different models for implementing cloud computing in organizations. * Consider appropriate solutions and models for implementing cloud computing in a given scenario or situation. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **90 hours/sem** |
| **COMPUTER PROGRAMMING 2 (ADVANCE LANGUAGE)** | Consists of competencies that a person must achieve to develop or write program codes using a personal computer or workstation as part of a systems development team. It includes core competencies on programming language on Java, such as to develop command-line/console and desktop applications and to develop enterprise/web applications using Java technology. | Module 1: Inheritance  Module 2: Polymorphism  Module 3: Exceptions  Module 4: Introduction to Collections  Module 5: Graphical User Interfaces | * Work with procedural and object-oriented aspects of the Java language. * Develop sound techniques on designing, developing, and documenting well-structured programs using proper software engineering principles. * Continue to apply problem solving skills and provide a foundation for advanced programming courses using an OOP (object-oriented programming) methodology. * Implement basic common programming data structures (for use in further programming courses). * Develop a GUI interface and related processing for an application. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **90 hours/sem** |
| **OFFICE PRODUCTIVITY** | Using project-based instruction, students are introduced to the Basic principles of Business in the 21st century while introducing or refreshing keyboarding skills. This course will also help students to use computer effectively in their lives thus providing a connection from computer applications to Business Careers. | Office Productivity Tools  Word Processing   * + The Ribbon   + Basic Formatting   + Intermediate Formatting   + Formatting Body Text   + Using References Tab   + Mailing Tools   + Proofing Tools   + Viewing Tools   + Basic Image Editing   + Keyboard Shortcuts   + Creating and Saving a Document   + Styling your content   + Adding References to the Document   + Using Spell-Check   + Exporting to Power point and HTML.   Spreadsheet   * + Getting Started with MS Excel   + Worksheets and Workbooks   + Entering Information in Worksheets   + Formatting a Worksheet   + Formulas and Basic Functions   + Cell referencing and working with conditions   + Using charts   + Data Validation   Presentation   * + Viewing the presentation slides   + Using the master views, master layout, and other sections   + Animation and Transitions   + Editing and Formatting Texts, Paragraphs, and Images   + Creating a New document and Using Master templates.   + Inserting tables, graphics, and multimedia content | * Demonstrate a functional understanding of one or more word processing applications. * Demonstrate a functional understanding of one or more spreadsheet applications. * Demonstrate a functional understanding of one or more presentation applications. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration   * + Problem Solving   + Hands-on Exercises | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **90 hours/sem** |
| **SYSTEM INTEGRATION AND ARCHITECTURE** | This course studies the process of integrating different systems and software applications by examining current and emerging trends, strategies, and techniques for developing systems integration solutions effectively. Example topics covered include, but are not limited to: documenting integration requirements using business process models, designing integration solutions reusing patterns, and implementing integration solutions using service-oriented architecture. Students will extend course topics via library assignments, programming assignments, tool evaluation assignments, and other assigned activities. | * + 1. [Overview of Systems Integration](https://app.box.com/s/zwdv3hbodyexcvishsq2oldmp8tllesk)     2. [Systems Integration Approaches](https://app.box.com/s/npbh906eg6px2fhmc2zjo4nb80mle4pj)     3. [Middleware](https://app.box.com/s/9aobarecepx40cxc48ttyukzjysmsc4j)     4. [ERP Systems Processes](https://app.box.com/s/5phpjkdtc4ayybs74g9vhda60bx5zngf)     5. [Solving Integration Problems using Patterns](https://app.box.com/s/c7mc143jdk35gzpa4a8w8sk0nhmosdcn)     6. [XML Application Integration](https://app.box.com/s/u4ixjqg6j7guzxpv8h6geesxo04t19g8)     7. [Web Services](https://app.box.com/s/98nq6ag1z1yexa2fexueom2lri30spel)     8. [Advanced Web Services](https://app.box.com/s/k91pnc3aj3l3i7v9mxizw6jn374xci4v) | Define and explain key concepts, approaches, requirement, life cycles, and strategies related to systems integration projects.  Describe and apply organizational and managerial issues related to systems integration projects.  Explain and utilize key systems integration architecture, planning, methodologies, and technologies.  Identify and assess current and emerging systems integration tools using middleware applications.  Define and analyze systems integration requirements using business process models.  Design feasible solutions for an integration problem that utilizes proven design solutions described in integration patterns.  Apply advanced integration technologies to implement system integration solutions through architectural designs.  Prepare portfolio to be submitted. | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration  Plan and create a design an architectural design in system integration. | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **54 hours/sem** |
| **PHYSICAL EDUCATION 2** | This course introduces the art and sport of dancing and to provide the necessary skills and understanding for an appreciation of the artistic, athletic, and social qualities of dance. Throughout the course, students will learn various concepts surrounding dance including culture, etiquette, and application in social settings as well as several different styles of dance and the rhythms and types of music to which they are danced. | **Course Outline**  Chapter 1: Introduction  – Rhythmic Activities  – Elements of Rhythm  – Elements movement & space  – Kinds of movements  – Phases of Dance Program  Chapter 2  – Folkdances  – Definition of Folkdances  – Types of Folkdances  – Objectives of Folkdances  – Kinds of Folkdances  – Fundamental Position Arms and Feet  Chapter 3  – Social and Ballroom Dances  – Definition of Social Dance and Ballroom Dances  – History of Ballroom  – Classification of Ballroom Dances | * Develop an appreciation towards the different dances * Learn the basics of the different dance styles * Introduce both artistic and athletic aspects of the dance * Develop confidence in one's movement * Learn techniques and skills for overall balance and rhythm * Exercise muscles and develop controlled movement * Establish a connection between movement and music * Develop body coordination | Inquiry and Discussion Approach  Video presentation/film viewing  Demonstration | Direct observation  Oral/Written Test  Project/work sample  Rubrics  Demonstration | **36 hours/sem** |
| **NSTP 2** |  |  |  |  |  |  |
| **1ST YEAR – 3RD SEMESTER** | | | | | | |
| **PRACTICUM 1** | Practicum 1 -150 hours (OJT/Supervised Industry Learning) |  |  |  |  | **150 HOURS** |

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| **Information Assurance and Security 2**  This course provides the foundations of information assurance and security from a business prospective. Topics covered include human factors, compliance with regulations, personnel security, risk assessment and ethical considerations. | At the end of the course, the students should be able to:   |  | | --- | | * Understand vulnerabilities, threats, and risks (INFOSEC, OPSEC, Software Security, and Information Security – CNSS 4011 and 4012. | | * Understand the concepts of security policies (Awareness CNSS 4011). * Understand basic security mechanisms used in order to protect information (NSTISS Planning and Management, Access Control – CNSS 4011 and 4012). * Understand physical security and personnel security (Roles of Various Organizational Personnel – CNSS 4011 and 4012). * Understand the development of the information assurance infrastructure and The Security Systems Development Life Cycle. **( Introduced AAS - SSLO1.1**, Awareness – CNSS 4011, Grant Final ATO, Review Accreditation, Verify Compliance – CNSS 4012**)** * Understand the importance of human factors like ethics in the process of information assurance. **( Reinforced AAS - SSLO4.1)** | | Blended: combines elements of both group and individuals   * Inquiry and Discussion Approach * Problem – based Approach * Video presentation/film viewing * Case Studies Approach * Demonstration | * Oral/Written Test * Analysis/Reaction Paper/Project Based * Direct Observation * Rubrics * Demonstration | 3 |