I. GENERAL INFORMATION ABOUT THE UNIVERSITY

PHILOSOPHY
The work of education and the work of redemption are one: to restore in humanity the lost image of God through the harmonious development of the mental, physical, social, and spiritual faculties.

MISSION
Adventist University of the Philippines is committed to provide quality Bible-based education, nurturing students for academic excellence, Christlike character, and exemplary service.

VISION
Adventist University of the Philippines envisions to be a leading Adventist educational institution in the Asia Pacific region by 2020.

INSTITUTIONAL OUTCOMES (IO)
Graduates of AUP are expected to exhibit the following outcomes:

1. Critical thinking. Demonstrate ability to read and think critically and creatively, and make mature decisions.
2. Adventist heritage. Demonstrate knowledge and application of the biblical truths expressed in the Seventh-day Adventist beliefs and spiritually to a variety of real-world issues, especially in family life.
3. Communication. Communicate effectively, creatively, and persuasively in a variety of verbal, non-verbal, and written ways, and in the use of technology.
4. Leadership. Influence and inspire others towards the achievement of the organization’s goals.
5. Professional expertise. Demonstrate professional proficiency in their major fields of study.
6. Spirituality. Practice the spiritual disciplines that develop a personal growing relationship with Jesus Christ.
8. Positive attitude. Demonstrate capability to work with integrity, cooperation, and good interpersonal relations with various people and cultures.
9. Vocation. Demonstrate personal commitment to fulfilling God’s calling in one’s profession.
10. Service. Practice the biblical lifestyle of caring and committed service through faithful stewardship of time, talent, treasure, and care of the environment.

PROGRAM OUTCOMES (PO)
Computer Science graduates are expected to:

<table>
<thead>
<tr>
<th>No.</th>
<th>Program Outcomes</th>
<th>Institutiona l Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Demonstrate ability to apply mathematical foundations, algorithmic principles and computer science theory in the modeling and design.</td>
<td>1,5</td>
</tr>
<tr>
<td>2</td>
<td>Communicate effectively with the computing community and with society at large about complex computing activities;</td>
<td>3, 4</td>
</tr>
<tr>
<td>3</td>
<td>Recognize the legal, social, ethical and professional issues involved in the utilization of computer technology;</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Ability to create a plan in relation to involvement in the church services and civic activities.</td>
<td>1,2,4,6,10</td>
</tr>
</tbody>
</table>
II. INFORMATION ABOUT THE COURSE

COURSE TITLE
Network Principles and Programming

COURSE CODE
CSDI 415

CREDIT UNITS
Three (3)

PRE-REQUISITE
C PROGRAMMING, OPERATING SYSTEMS

CLASS SCHEDULE
MW 1-2:30PM

CLASSROOM
Unixlab

COURSE DESCRIPTION
This course provides an in-depth discussion of computer networks. It includes a detailed discussion of the different Network Models. Concepts that have a direct effect on the efficiency of a network (e.g. collision and broadcast domains, topology) are also discussed. Concepts on different network technologies, distributed computation, networking, and communication software, and security issues are also discussed. Practical knowledge and implementation of different network protocols, clients, and servers are also included in the topics.

LEARNING OUTCOMES
At the end of the course, the students are expected to:

<table>
<thead>
<tr>
<th>No.</th>
<th>Learning Outcomes</th>
<th>Program Outcomes (PO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Understand ISO/OIS 7 Layers Network Reference Model</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>2</td>
<td>Be able to network computers.</td>
<td>1, 4, 5</td>
</tr>
<tr>
<td>3</td>
<td>Setup and troubleshoot network routing.</td>
<td>1, 5</td>
</tr>
<tr>
<td>4</td>
<td>Analyze network usage.</td>
<td>1, 2, 4</td>
</tr>
<tr>
<td>5</td>
<td>Secure network at different levels.</td>
<td>2</td>
</tr>
</tbody>
</table>

BEHAVIORAL EXPECTATIONS

1. **Attendance.** Students are expected to attend all lectures regularly. Going in and out of the class during the session is discouraged. A student who incurs absences of more than 20% of the total contact hours during the semester shall fail and earn no credit for the course.

2. **Punctuality.** Classes will start on time so students are expected to come to class as scheduled.

3. **Cell phones.** All cell phones must be turned off or must be in silent mode.

4. **Dress code** – Undergraduate students are expected to be in proper school uniform at all times. Graduate students are expected to behave and present themselves as professionals.

5. **Proper grooming** – Students are expected to be neat in coming to class, and to be sensitive to body odor.

6. **ID** – Students must wear their IDs while in the school premises.

7. **The No, No’s in the Classroom**
   - Jeans, Rubber shoes, Sleeveless, Mini-skirt, T-shirt, Long hair (for men), Long beard, Children, Eating
**COURSE REQUIREMENTS**

1. **Class Participation** - Students are expected to participate in class discussions. Pertinent comments that reflect critical thinking is encouraged.

2. **Research Paper** - A topic from the course outline will be assigned to each student. This will serve as the basis of the research paper to be presented in class.

   Each reporter will submit to the professor a hard copy of the research paper before the scheduled presentation. Each student must also be given a copy.

   The Research Paper must:
   
   a. be typed in a word processor
   b. be printed in a short bond paper
   c. be in a standard 12-point Times New Roman
   d. be double-spaced
   e. be edited
   f. have 1 1/2 inches margin on the left, and one (1) inch on the right, bottom and top
   g. have a title page
   h. have page numbers
   i. have references
   j. be presented in a LibreOffice and sent through email to the professor before the scheduled presentation

3. **Synthesis.** A synthesis is a comprehensive written report about each of the topic and sub-topics reflected in the course outline. It is not just a summary but an analysis on how the topic will be applied at work. The synthesis is going to be submitted to the professor after a topic is presented.

4. **Community Extension Services.** Students disseminate to the community new information derived from the research activity.

5. **Final Exam.** There will be a comprehensive final exam covering materials from all class lectures, cases, videos, exercises, and discussions.

**LEARNING ACTIVITIES**

1. **Role play** – Role play different situations and concepts on management principles.

2. **Interview successful managers** – Validate theories from actual practice.

3. **Case writing** - Write cases which will be analyzed in class.

4. **Summary and reaction paper.** Read topics reflected in the syllabus and make a one-page reaction paper. This paper is submitted every time a new topic is presented. This will help the student understand what is to be discussed in class.

5. **Group/Class discussions** - Discuss by groups, in pairs or in panel specific topics that may be assigned.
Other Requirements:

1. Bible - Bring a Bible (book or electronic) to class for the integration of values and learning.

Grading System

<table>
<thead>
<tr>
<th>Grade</th>
<th>Raw Score</th>
<th>Perfect Score</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>98 – 100</td>
<td>100</td>
<td>4.00</td>
</tr>
<tr>
<td>A–</td>
<td>95 – 97</td>
<td></td>
<td>3.75</td>
</tr>
<tr>
<td>B+</td>
<td>92 – 94</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>B</td>
<td>89 – 91</td>
<td></td>
<td>3.25</td>
</tr>
<tr>
<td>B–</td>
<td>86 – 88</td>
<td></td>
<td>3.00</td>
</tr>
<tr>
<td>C+</td>
<td>83 – 85</td>
<td></td>
<td>2.75</td>
</tr>
<tr>
<td>C</td>
<td>80 – 82</td>
<td></td>
<td>2.50</td>
</tr>
<tr>
<td>C–</td>
<td>77 – 79</td>
<td></td>
<td>2.25</td>
</tr>
<tr>
<td>D</td>
<td>75 – 76</td>
<td></td>
<td>2.00</td>
</tr>
<tr>
<td>F</td>
<td>74 and below</td>
<td></td>
<td>0.00</td>
</tr>
</tbody>
</table>

Grading Criteria and Weight Equivalent

Continuous Assessment (Projects) | 100% | Examinations | 100% | 100%

Computation of Grade : \[ \text{RAW Score} + \text{PERFECT Score} \times 50 + 50 \]

Cut-off Grade : B– \[ 86\% – 88\% \]

References

Books

E-Journals

E-Books

Course Content

<table>
<thead>
<tr>
<th>Hrs</th>
<th>Topics</th>
<th>Learning Outcomes Objectives</th>
<th>Assessment Strategy</th>
<th>Evidence of Outcomes</th>
<th>Values Integration</th>
</tr>
</thead>
</table>
| 1.5 | Introduction & Orientation  
• Signing the syllabus distribution sheet  
• Finalizing the seat plan | Cognitive  
Conform with the information about the university and the requirements of the course | PowerPoint presentation | Students can recite the PMV of AUP | Acceptance of challenging class requirements and activities  
Ecc 9:10 Whatsoever thy hand findeth to do, do it with thy might; for there is no work, nor device, nor knowledge, nor wisdom, in the grave, whither thou goest. |
| 4.5 | Introduction to Computer Networks  
Understand ISO/OSI Network Reference Model | Quiz | Student can recite 7 Layers in order | Organizational  
1 Cor 14:40 But all things should be done decently and in order. |
### Physical Layer

**Psychomotor**
- Be able to crimp RJ-45

**Observation**
- Students can physically connect computers to the network.

**Protocol**
- James 1:19 ... let every person be quick to hear, slow to speak...

### Data Link Layer

**Cognitive**
- Explain roles of Layer 2

**Layer 2 protocol role play**
- Students can explain basic error detecting and recovery protocols

**Correction**
- Proverbs 15:32
- Whoever ignores instruction despises himself, but he who listens to reproof gains intelligence.

### Network Layer

**Cognitive**
- Be able to do routing

**Routing troubleshooting practice**
- Students will be able to manipulate routing tables

**Destination**
- John 3:16 For God so loved the world that he gave his one and only Son, that whoever believes in him shall not perish but have eternal life.

### Transport Layer

**Cognitive**
- Network Programming

**Lab Work**
- Students will be able to create server and client software.

**Serving**
- 1 Peter 4:10
- As each has received a gift, use it to serve one another, as good stewards of God's varied grace.

### Application Layer

**Cognitive**
- Install common server software: DNS, HTTP, PostgreSQL, etc...

**Lab Work**
- Students will be familiar with configuring different server software.

**Spiritual Gifts**
- Romans 12:6-8
- Having gifts that differ according to the grace given to us, let us use them: if prophecy, in proportion to our faith; if service, in our serving; the one who teaches, in his teaching; the one who exHORTS, in his exhortation; the one who contributes, in generosity; the one who leads, with zeal; the one who does acts of mercy, with cheerfulness.

### Final Exams

**Total Contact Hours**

### III. INFORMATION ABOUT THE TEACHER

**NAME**
- Winelfred G. Pasamba

**CONTACT NUMBER**
- 09176-318-7253

**E-MAIL ADDRESS**
- winelfredpasamba@gmail.com

**CONSULTATION HOURS**
- Wednesday 9-12am, Library Basement Room 111

Prepared by:
- Winelfred G. Pasamba

Approved by:
- Levi L. Bicua

Noted by:
- Edwin A. Balila

**Instructor**
- Department Chair

**College Dean**