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Mission and Objectives

The primary mission of Brand College is to provide students with high quality, career oriented programs. Our goal is to ensure that students receive the highest possible standard of education in their field of study. At Brand College, we have made every effort to create the optimum environment in which students gain real-life experiences in the classroom. We aim to prepare our students to be fully capable to work “in the field”. The education students receive at Brand College will greatly enhance their chances of securing the best possible employment in their field of study.

Students will benefit from our dedication to excellence in training, and our continuous efforts to provide the following:

- Personal, hands-on education.
- Ample class time, above and beyond the requirements, to ensure our students get a chance to absorb the material thoroughly, ask questions and practice through lab exercises.
- Small class sizes for individual attention.
- Instructors who have extensive real-life experience and a passion for training.

Now, more than ever, businesses have begun to demand industry certified employees who are qualified to plan, install, operate, maintain, and support today’s complex computer environments. We believe that Microsoft and Cisco are the world’s leading providers of system software/hardware for various businesses and demands are increasing for Microsoft and Cisco certified engineers with an emphasis on MCSE, CCNA, CCNP and CCSP.

As the computer market enters into a new era of automation, business needs are being re-evaluated to take advantage of the new technologies that are far more complex and sophisticated and require support personnel with advanced training and skills. With these changes, highly qualified individuals will be needed to allow organizations to improve their overall operations. With increased computerization and automation of the business environment, computer training has become a needed commodity in this ever-changing field. As technology rapidly advances, it is apparent that well-educated and highly trained personnel are in demand to manage and operate this growing computing platform.

The areas of need will range from training for basic software skills to highly technical training on how to develop and maintain computer systems for large and growing organizations and enterprises.

The above needs simply illustrate that there is a vast pool of candidates eligible for Brand College’s programs. Candidates will range from individuals just starting in the field of technology to those experienced and technical personnel wanting to upgrade or update their skills.
History
Brand College was established in 2004 in Glendale, California, as a Limited Liability Corporation.

Brand College, a private institution, is licensed to operate by BPPE. For more information, contact BPPE at:

2535 Capitol Oaks Drive, Suite 400
Sacramento, CA 95833
P.O. Box 980818
West Sacramento, CA 95798-0818

www.bppe.ca.gov
Toll free telephone number (888) 370-7589
or by fax (916) 263-1897

The primary focus of the organization is to provide quality training to its clients in the area of Information Technology and related studies. The organization currently has seven partners and will be operating out of its headquarters in Glendale, California. The company offers its customers a unique combination of expertise – comprehensive and practical Information Technology training in many of the sought-after programs in the industry.

The primary mission of the organization is to provide students with high quality, career oriented programs. Our goal is to ensure that students receive the highest possible standard of education in their field of study. At Brand College, we have made every effort to create the optimum environment in which students gain real-life experiences in the classroom. We aim to prepare our students to be fully capable to work "in the field". The education students receive at Brand College will greatly enhance their chances of securing the best possible employment in their field of study.

Our educational services include:

1. Certification training programs including:
   a. CompTIA A+ (PC Hardware Technician),
   b. Microsoft Certified System Engineer (MCSE),
   c. Linux+ (Linux Certified Professional),
   d. Cisco Certified Network Associate (CCNA),
   e. Cisco Certified Network Professional (CCNP)
   f. and Cisco Certified Security Professional (CCSP);

2. Comprehensive programs including:
   a. Certified Desktop & Network Specialist (CDNS),
   b. Certified LAN & WAN Specialist (CLWS),
   c. Cisco Certified Network Expert (CCNE),
   d. and Certified Network Technologies Expert (CNTE);

3. Skill and knowledge enhancement training not specifically linked to certifications including:
   a. Security training for firewall and VPN solutions,
   b. End-user and corporate training directed at updating employee/user skill set and knowledge base,
   c. Certification preparation,
   d. and certification testing.
Industry Affiliations
Brand College is proud to honor affiliations with industry and educational leaders while it continues to expand its partnerships, certifications, and/or memberships:

Technic Affiliations
- Microsoft IT Academy
- VMWare IT Academy
- Microsoft Small Business Specialist
- Cisco Premier Partner
- HP Authorized Business Partner
- Dell Solution Provider
- Ingram Micro

Educational Affiliations
- Brand College is accredited by the Accrediting Commission of Career Schools and Colleges (ACCSC)
- Brand College is licensed to operate by BPPE. For more information visit [www.bppe.ca.gov](http://www.bppe.ca.gov)
- Brand College is approved for the training of veterans and eligible persons under the provisions of title 38, United States code
- Thomson/Prometric Testing Center
- Pearson VUE Testing Center
- CAPPS (The California Association of Private Postsecondary Schools)
- Dun and Bradstreet
School Overview
We believe a key element to the future success of Brand College will be the quality of its personnel. The team of individuals that is to become Brand College is comprised of a balanced blend of engineers, instructors, business managers, and administrators. Each member of the organization brings a high level of expertise and experience to the team. Additionally, the group has already attracted a number of highly regarded outside contractors and professional support personnel. Brand College is a cohesive group of talented, energetic, individuals fully prepared to build a highly successful, well regarded, IT company.

Brand College has no pending petition in bankruptcy, is not operating as a debtor in possession, has not filed a petition within the preceding five years, or has not had a petition in bankruptcy filed against it within the preceding five years that resulted in reorganization under Chapter 11 of the United States Bankruptcy Code (11 U.S.C. Sec. 1101 et seq.).
General Information

Facilities
Brand College is located in Glendale, California at 529 Hahn Avenue, near the heart of the Glendale business district. The facilities can be found on the first floor of a two-story building. The space occupied by school is approximately 1,340 square feet.

The space consists of two classrooms/labs, a student lounge area, administrative offices, Pearson VUE Testing Center, Thomson/Prometric Testing Center and a library/resource center.

The classrooms/lab 1 accommodates up to 14 students while the classroom/lab 2 can accommodate up to 8 students. Both classroom/labs provide a student to computer ratio of 1:1, equipped with up-to-date computer equipment.

School’s labs are equipped with IBM compatible computers, Cisco routers, and Pacific Bell data lines.

All areas of the facility are well lighted and well ventilated. Additionally, the west side of the building is banked by large windows allowing for pleasant, natural lighting into a significant portion of the suites. The second floor suite is quiet and tranquil and offers an extremely pleasant environment for students.
**Campus Information**

The school is open from 8:00am to 10:00pm, Monday through Thursday, 8:00am to 5:00pm on Friday, Saturday and Sunday, excluding holidays.
Admissions Requirements
To be admitted to any Brand College’s program, all applicants must satisfy the following requirements:

1. All prospective students must have a minimum of high school diploma, completed academic transcript for a comparable level of education, or have the equivalent of a diploma such as GED. Such documentation must be submitted to the college before the start of class.

2. All prospective students from foreign, non-English speaking countries must provide above documentation for school’s verification. The school will verify the qualification of such documents through certified translation services provided by Foreign Credits.

3. All applicants must pass an entrance exam given by the college before the start of class.

Brand College’s programs entail rigorous computer-based training requiring basic computer knowledge, logic and reasoning abilities, mathematics aptitude, and writing skills. In order to accurately evaluate an applicant’s ability to succeed in this training program, prospective students have to successfully pass school’s entrance exam. The Wonderlic is a designated exam for Brand College. Score of at least 12 will be required for an applicant to be considered for admission to school. The exam may not be repeated within a seven-day period in the event the applicant does not pass the exam.

As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement.

Brand College encourages students to review the catalog and School Performance Fact Sheet prior to signing the school’s enrollment agreement.

Procedures
To apply for admissions, applicants should contact the admissions department to schedule an interview with one of our Admissions Representatives. The applicant will have an extensive interview with school’s admissions personnel. In this session panel members will discuss the applicant’s background, interest and future plans in the area of interest, and tour the facility. Current job market analysis will be included in determining the needs of the student in his/her specific field of study. If there is an interest in the school, an entrance exam will be administered.

Applicants should be prepared to present a copy of their diploma or GED along with the required registration fee.

Upon acceptance into the school, the applicant will complete an enrollment agreement that includes terms of the registration fee and tuition.

If the school rejects the applicant, he/she will be notified immediately and all sums paid as part of the program tuition will be fully refunded to the student.
### Schedule of Total Charges

<table>
<thead>
<tr>
<th>Program</th>
<th>Registration Fee</th>
<th>Tuition, Books, and Equipment</th>
<th>Total Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+ (PC Hardware Technician)</td>
<td>$0.00</td>
<td>$1,500.00</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>Cisco Certified Network Associate</td>
<td>$0.00</td>
<td>$2,500.00</td>
<td>$2,500.00</td>
</tr>
<tr>
<td>Cisco Certified Network Professional</td>
<td>$50.00</td>
<td>$7,500.00</td>
<td>$7,550.00</td>
</tr>
<tr>
<td>Cisco Certified Security Professional</td>
<td>$50.00</td>
<td>$10,000.00</td>
<td>$10,050.00</td>
</tr>
<tr>
<td>Certified Network Technologies Expert</td>
<td>$50.00</td>
<td>$31,000.00</td>
<td>$31,050.00</td>
</tr>
<tr>
<td>Linux+ (Linux Certified Professional)</td>
<td>$0.00</td>
<td>$2,000.00</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>Microsoft Certified System Engineer</td>
<td>$50.00</td>
<td>$7,500.00</td>
<td>$7,550.00</td>
</tr>
<tr>
<td>Certified Desktop &amp; Network Specialist (CDNS)</td>
<td>$50.00</td>
<td>$9,000.00</td>
<td>$9,050.00</td>
</tr>
<tr>
<td>Certified LAN &amp; WAN Specialist (CLWS)</td>
<td>$50.00</td>
<td>$10,000.00</td>
<td>$10,050.00</td>
</tr>
<tr>
<td>Cisco Certified Network Expert (CCNE)</td>
<td>$50.00</td>
<td>$20,000.00</td>
<td>$20,050.00</td>
</tr>
</tbody>
</table>

The school reserves the right to adjust tuition rates. In no event will any such changes affect the students that already have signed an enrollment agreement with the school.

You must pay the state-imposed assessment for the Student Tuition Recovery Fund (STRF) if all of the following applies to you:

1. You are a student in an educational program, who is a California resident, or are enrolled in a residency program, and prepay all or part of your tuition either by cash, guaranteed student loans, or personal loans, and
2. Your total charges are not paid by any third-party payer such as an employer, government program or other payer unless you have a separate agreement to repay the third party.
You are not eligible for protection from the STRF and you are not required to pay the STRF assessment, if either of the following applies:

1. You are not a California resident, or are not enrolled in a residency program, or
2. Your total charges are paid by a third party, such as an employer, government program or other payer, and you have no separate agreement to repay the third party.

The State of California created the Student Tuition Recovery Fund (STRF) to relieve or mitigate economic losses suffered by students in educational programs who are California residents, or are enrolled in a residency programs attending certain schools regulated by the Bureau for Private Postsecondary and Vocational Education.

You may be eligible for STRF if you are a California resident or are enrolled in a residency program, prepaid tuition, paid the STRF assessment, and suffered an economic loss as a result of any of the following:

1. The school closed before the course of instruction was completed.
2. The school’s failure to pay refunds or charges on behalf of a student to a third party for license fees or any other purpose, or to provide equipment or materials for which a charge was collected within 180 days before the closure of the school.
3. The school’s failure to pay or reimburse loan proceeds under a federally guaranteed student loan program as required by law or to pay or reimburse proceeds received by the school prior to closure in excess of tuition and other costs.
4. There was a material failure to comply with the Act or this Division within 30 days before the school closed or, if the material failure began earlier than 30 days prior to closure, the period determined by the Bureau.
5. An inability after diligent efforts to prosecute, prove, and collect on a judgment against the institution for a violation of the Act.

However, no claim can be paid to any student without a social security number or a taxpayer identification number.
Clock Hour Conversion

- Term- Quarter (12 weeks)
- Classroom/Laboratory Contact Hour – Fifty (50) minutes of class time
- One Quarter Credit Hour - Twelve (12) hours of classroom contact plus appropriate outside preparation
- One Quarter Clock Hour - Twenty-four (24) hours of supervised laboratory instruction plus appropriate outside preparation

Language
Brand College only offers classes in English. We do not offer ESL classes.
Refund Policy

Installment Contract
Installment of more than four (4) payments requires the completion and execution of Brand College’s Promissory Note – Tuition Assistance agreement in addition to this Enrollment Agreement. Student (and Co-buyer, if applicable) understands that payments are made to the School (Brand College). Payments 10 days delinquent may accrue a LATE CHARGE of the lesser of 5%, $5 or maximum allowed by law. If account is delinquent for over 90 days, the entire amount may become due and payable. I/we Student (and Co-buyer, if applicable), agree to pay all funds owed under this agreement to the school on demand. I/we Student (and Co-buyer, if applicable), do not, I/we agree to pay all costs of collection, including attorney and collection agency costs in addition to what I/we owe. The Agreement is not binding until accepted by the School. Student may pay off balance in advance (within 90 days of start date) and receive partial refund of interest computed by the actuarial method. NOTICE: Any holder of this consumer credit contract is subject to all claims and defenses which debtor (student) could assert against seller (school) services obtained hereunder. Recovery hereunder by the debtor (student) shall not exceed the amount paid by the debtor (student) hereunder.

“Student’s Right to Cancel”

Cancellation of Agreement
You have the right to cancel this agreement for a course of instruction including any equipment such as books or any other goods related to the instruction offered in this agreement, through attendance at the first class session or until midnight of the seventh (7) business day after enrollment, whichever is later. Student has the right to obtain a refund of charges paid through attendance at the first class session, or the seventh day after enrollment, whichever is later.

Cancellation shall occur when you give written notice of cancellation at the address of the School shown on the top of the front and back page of this agreement. You can do this by mail, hand delivery, or telegram. The written notice of cancellation, if sent by mail, is effective when deposited in the mail properly addressed with postage prepaid. The written notice of cancellation need not take any particular form and, however expressed, it is effective if it shows that you no longer wish to be bound by agreement. You will be given two Notice of Cancellation forms to use at the first day of class, but you can use any written notice that you wish.

If the school has given you any equipment, including books or other materials, you shall return it to the school within 30 days following the date of your notice of cancellation. If you fail to return this equipment, including books, or other materials, in good condition within a 30-day period, the school may deduct its documented cost for the equipment from any refund that may be due to you. Once you pay for the equipment, it is yours to keep without further obligation. If you cancel this agreement, the school will refund any money that you paid, less any deduction for equipment not timely returned in good condition, within 30 days after your notice of cancellation is received.

Withdrawal From Course
You have the right to withdraw from a course of instruction at any time. If you withdraw from the course of instruction after the period allowed for cancellation of the agreement, which is until midnight of the seventh (7) business day following the first class you attended, the school will remit a refund less a registration fee, if applicable, not to exceed $75.00 within 30 days following your withdrawal. You are obligated to pay only for education services rendered and for unreturned equipment. The refund shall be the amount you paid for instruction, less a registration fee, multiplied by a fraction in which the numerator is the number of hours of instruction which you have not received but for which you have paid, and the denominator is the total number of hours of instruction for which you have paid. If you
obtain equipment, as specified in the agreement as a separate charge, and return it in good condition within 30 days following the date of your withdrawal, the school shall refund the charge for equipment paid by you. If you fail to return the equipment in good condition, allowing for reasonable wear and tear, within 30 days period, the school may offset against the refund the documented cost to the school of that equipment. You shall be liable for the amount, if any, by which the documented cost for equipment exceeds the prorated refund amount. The documented cost of the equipment may be less than the amount charged, and the amount the school has charged in the contract.

In any event, you will never be charged for more than the equipment charges stated in the contract. For a list of these charges, see the list on the front of this page. IF THE AMOUNT THAT YOU HAVE PAID IS MORE THAN THE AMOUNT THAT YOU OWE FOR THE TIME YOU ATTENDED, THEN REFUND WILL BE MADE WITHIN 30 DAYS OF WITHDRAWAL. IF THE AMOUNT THAT YOU OWE IS MORE THAN THE AMOUNT THAT YOU HAVE ALREADY PAID, THEN YOU WILL HAVE TO MAKE ARRANGEMENTS TO PAY IT.

An approved leave of absence (LOA) is not considered to be a withdrawal of the student which requires a refund. A LOA is approved if, (1) the student has made a written request for the LOA, (2) the leave of absence does not exceed sixty (60) days, (3) the school has granted only one LOA to the student in any 12-month period, and (4) the school does not charge the student for the LOA. If the LOA is not approved then the student is considered withdrawn from the school, and the refund requirements apply.

**Hypothetical Refund Example**

Assume the student has paid in full the following charges for a 400-hour course:

- Registration Fee: $75.00
- Tuition: $2,025.00
- Equipment: $150.00 (student has received all necessary equipment)

Student withdraws from the school after 100 hours of instruction. The pro rata refund for the student would be:

$$\frac{(2025 \times 300)}{400} = 1518.75$$ (refund of $1,518.75)

If the student returns the equipment in good condition within 10 days following his/her withdrawal, the school shall refund the charge for the equipment paid by the student. Thus the refund amount will be:

$1,518.75 + $150 = $1,668.75

For the purpose of determining the amount you owe for the time you attended, you shall be deemed to have withdrawn from the course when any of the following occurs:

(a) You notify the school of your withdrawal or the actual date of withdrawal.
(b) The school terminates your enrollment. **
(c) You fail to attend classes for a three-week period. In this case, the date of withdrawal shall be the last date of recorded attendance.
(d) You fail to submit three consecutive lessons or you fail to submit a completed lesson required for home study or correspondence within 60 days of its due date.

If a student obtains a loan to pay for an educational program, the student will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund, and that, if the student has received federal student financial aid funds, the student is entitled to a refund of the moneys not paid from federal student financial aid program funds.
**Grounds for cancellation/termination by the school – failure to maintain satisfactory academic progress, excessive unexcused absences, violation of school Codes of Conduct, and/or failure to meet financial obligations to the school.**

**Disclosure**

The school reserved the right to cancel a class start date due to insufficient enrollment. If this occurs, the student may request a full refund of all monies paid or apply all monies paid to the next scheduled class start date. The school reserves the right to change or modify the program contents, equipment, staff or materials as it deems necessary. Such changes may be necessary to keep pace with technological advances and to improve teaching methods or procedures. In no event will any such changes diminish the competency or content of any program or result in additional charges to the student.

While the school offers Placement Assistance, the school cannot, in any way, guarantee employment after the student has successfully completed the program of study.

NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION:

The transferability of credits you earn at Brand College is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the certificate you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the certificates that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Brand College to determine if your certificate will transfer.

You must pay the state imposed assessment for the Student Tuition Recovery Fund (STRF) if all of the following applies to you: 1. You are a student in an educational program, who is a California resident, or are enrolled in a residency program, and prepay all of part of your tuition either by cash, guaranteed student loans, or personal loans, and 2. Your total charges are not paid by any third-party payer such as an employer, government program or other payer unless you have a separate agreement to repay the third party. You are not eligible for protection from the STRF and you are not required to pay the STRF assessment if either of the following applies: 1. You are not a California resident, or are not enrolled in a residency program, or 2. Your total charges are paid by a third party, such as an employer, government program or other payer, and you have no separate agreement to repay the third party.
Academic Policies

Satisfactory Academic Progress - Description
The following is a description of the school’s process and activities supporting a consistent SAP analysis and reporting on regular intervals.

1. Director of Education and the School Director meet during the Administrative Week following the conclusion of each school term.

2. The student transcripts are then sent to students via postal mail and email.

3. Students who do not meet the required and satisfactory academic progress are placed on Probation I for one term.

4. Students who are on probation will be counseled by the school and a plan will be set to help the student to return to satisfactory standing with their academic progress. Students who are on probation are also on a limited enrollment plan. Full-time students can enroll for a maximum of 6 units while part-time students cannot take more than 3 units under this probationary period.

Example of Satisfactory Academic Progress requirements (CCNP Program):

<table>
<thead>
<tr>
<th>Program Interval</th>
<th>Satisfactory Completion</th>
<th>Minimum GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1</td>
<td>25% or higher</td>
<td>1.0</td>
</tr>
<tr>
<td>Module 2</td>
<td>50% or higher</td>
<td>1.5</td>
</tr>
<tr>
<td>By completion of program</td>
<td>100%</td>
<td>2.0</td>
</tr>
</tbody>
</table>

5. If by the end of the first term in the probationary period the student meets the required and satisfactory academic progress, the student’s status is then restored to satisfactory academic standing with the school.

6. In the event the student still does not meet the satisfactory academic progress at the end of the first probationary period, the student is then placed on Probation II and is suspended from the school for one term. While suspended, the student will go through counseling with the school in order to set a plan and return to satisfactory standing with the school.

7. At the end of the suspension period, the student has the option to submit a Petition for Reinstatement on Probationary Status form to provide information that may be deemed justifiable for the student’s academic difficulties.

8. The school will review the information provided by the student and will determine if the student should be allowed to return to school based on the information provided by the student and verified by the school.

9. Should the school approve the student’s return, the student will resume school under the status of Probation I as described above.

10. Upon the completion of the term, if the student meets the required and satisfactory academic progress, the student’s status is then restored to satisfactory academic standing with the school.
The student is dismissed from the school otherwise. After six months, the student has the option to submit a petition for reinstatement.

The maximum time limit for a student to complete a program is 1.5 times the program length in weeks. If students do not complete the training within the maximum time frame they will be dropped from the program.

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Quarter (Clock Hrs)</th>
<th>Length (in weeks)</th>
<th>Max Time (in weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+ (PC Hardware Technician)</td>
<td>96</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Microsoft Certified System Engineer (MCSE)</td>
<td>480</td>
<td>60</td>
<td>90</td>
</tr>
<tr>
<td>Cisco Certified Network Associate (CCNA)</td>
<td>96</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Cisco Certified Network Professional (CCNP)</td>
<td>192</td>
<td>24</td>
<td>36</td>
</tr>
<tr>
<td>Cisco Certified Security Professional (CCSP)</td>
<td>288</td>
<td>36</td>
<td>54</td>
</tr>
<tr>
<td>Linux+ (Linux Certified Professional)</td>
<td>96</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Certified Desktop &amp; Network Specialist (CDNS)</td>
<td>576</td>
<td>72</td>
<td>108</td>
</tr>
<tr>
<td>Certified LAN &amp; WAN Specialist (CLWS)</td>
<td>576</td>
<td>72</td>
<td>108</td>
</tr>
<tr>
<td>Cisco Certified Network Expert (CCNE)</td>
<td>576</td>
<td>72</td>
<td>108</td>
</tr>
<tr>
<td>Certified Network Technologies Expert (CNTE)</td>
<td>1152</td>
<td>72</td>
<td>108</td>
</tr>
</tbody>
</table>
Satisfactory Academic Progress – Process Flow

A - SAP Evaluation
1. Mail Academic Transcripts to All Students

B - Probation I if SAP is not Met
1. Student Counseling by School
2. Restricted Enrollment (Max 6 Units for Full-time and 3 Units for Part-time Students)
3. Student Remains on Probation for One Term

C - Re-Evaluate Academic Progress
1. Student Returns to Satisfactory Standing with School if SAP is Met
2. Student is Placed on Second Probation if SAP is not Met

D - Probation II
1. Student is Suspended from School for One Term
2. Student Counseling by School
3. Student Submits Petition for Reinstatement After One Term
4. If Approved, Student Returns to School Under Conditions of First Probation Status
5. Student Returns to Satisfactory Standing with School if SAP is Met, Otherwise Student is Dismissed
**Attendance**
A student in any class will be placed on attendance probation if she/he accumulates three consecutive or four cumulative unexcused absences. While on attendance probation, the student will be dismissed with an additional unexcused absence.

**Tardiness**
A student who is more than 15 minutes late to class, or who leave class more than one half hour early on four occasions will accrue one day of absence.

**Make-Up Works**
Students are required to make-up all assignments, exams, or other missed work as a result of an excused or unexcused absence. Arrangements to make up a missed exam must be made with the instructor.
**Student Code of Conducts**
To maintain an environment of social, moral and intellectual excellence, the college expects each student to behave in a mature and professional manner.

In essence, students need to display the following:
- Conduct that is orderly at all times
- Honesty & professionalism
- Respect for college and/or other student’s property
- Professional attire

**Disciplinary Dismissal**
Any student who violates the following is liable for dismissal from her/his program:
- Student codes of conduct
- Cheating
- Drug/alcohol abuse
- Failure to meet financial obligations
- Failure to maintain satisfactory academic progress (SAP)
- Failure to comply with the School’s policies (attendance, tardiness, etc.)

However, any student who has been dismissed may appeal the action, in writing, to the Director. The appeal must contain supporting, verifiable documentation that the unacceptable performance was the result of mitigating circumstances.

**Conditions for Re-Enrollment**
A student will be eligible for re-admissions if the director is satisfied with the evidence shown and the conditions that cause the interruption have been rectified.

**Grading System**
Grades are issued within two weeks after the end of each term. Designators indicate academic action, not grades, and are not included when computing academic averages. Grades and designators are assigned as follows:

**Grade of F-Failing:** A student, who receives an F in a required course, must repeat the course and receive a passing grade. Upon completion of a repeated course with a passing grade, the new grade will replace the failing grade in CGPA computation.

<table>
<thead>
<tr>
<th>Index Grade</th>
<th>Percentage Equivalent</th>
<th>Grade Point</th>
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</thead>
<tbody>
<tr>
<td>A</td>
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<tr>
<td>B</td>
<td>80-89</td>
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<td>C</td>
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<td>60-69</td>
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<tr>
<td>F</td>
<td>Below 60</td>
<td>0</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
<td>0</td>
</tr>
</tbody>
</table>

**Designators**
P = Proficiency Test
T = Transfer Credit
W = Withdrawal
**Grade of I-Incomplete:** A grade of I signifies not all the required course work was completed during the term of enrollment. All required work must be completed by the end of the first week of the following term. If course requirements are not satisfied by the deadline, the grade I will be converted to an F.

**Designator W-Course withdrawal:** Designator W indicates that the student withdrew from a course prior to the withdrawal deadline. Students may withdraw from any program module from Monday of week 2 through Sunday of week 4 of the program. The student will receive a grade of “W” for any module the student drops. No adjustments will be made to tuition and fees for the quarter unless the student is withdrawing from all modules in the program. As soon as the student retakes and completes any dropped modules the new grade for the module will take effect in student’s GPA and units will be added to the total units earned by the student.

**Designator P-Proficiency test:** Students may request a proficiency examination provided they have not previously taken the same class at Brand College.

**Designator T-Transfer credit:** An applicant wishing to transfer credit from another school must request a credit evaluation and provide an official transcript and a catalog from the transferring institution (grade must be ‘C’ or better). The Director will review the application and if the classes are determined to be equivalent to Brand College’s curriculum, credits will be transferred. School credits are transferable only at the discretion of the receiving institution. Credits earned at Brand College may or may not transfer to other institutions.

Brand College does not offer Experiential learning credits.

**Articulation Agreement:** Brand College has not entered into an articulation or transfer agreement with any other college or university.

**Student’s Records**

Brand College will be using specialized registrar software, which will organize the school’s student population alphabetically and by social security number. The aforementioned software program is designed to also maintain data regarding students' personal information, attendance records, academic records and grades. A hard copy of each student's academic and financial records will be kept in the school's administrative offices for 5 to 7 years. Academic and financial records will be kept separately for the purpose of monitoring.

Student academic files will contain the following items: student contract with school, personal data sheet, emergency medical form, entrance exam, and proof of most recent degree. (GED will be accepted in place of a high school diploma.

**Complaint Policies and Procedure**

Any individual with a complaint or a concern with the school is encouraged to reach out to the school faculty or staff members. There is a complaint log sheet available at the school’s administrative desk. The complaint can be submitted either in writing or discussed verbally with the school faculty or staff. The recipient of the complaint shall report the complaint and any pertinent information to Debbie Ruiz (Academics) for further review and timely resolution. The complainant(s) will be kept informed as to the status of the complaint as well as the final resolution by the school.

**Student Complaint Procedure**

Schools accredited by the Accrediting Commission of Career Schools and Colleges must have a procedure and operational plan for handling student complaints. If a student does not feel that the school has adequately addressed a complaint or concern, the student may consider contacting the Accrediting Commission. All complaints reviewed by the Commission must be in written form and should grant
permission for the Commission to forward a copy of the complaint to the school for a response. This can be accomplished by filing the ACCSC Complaint Form. The complainant(s) will be kept informed as to the status of the complaint as well as the final resolution by the Commission.

Please direct all inquiries to:

Accrediting Commission of Career Schools and Colleges (ACCSC)
2101 Wilson Boulevard, Suite 302
Arlington, VA 22201
(703) 247-4212
www.accsc.org

A copy of the ACCSC Compliant Form is available at the school and may be obtained by contacting Debbie Ruiz, Director or online at www.accsc.org.

In addition to filing a complaint with the Accrediting Commission of Career Schools and Colleges (ACCSC), students may contact the Bureau of Private Postsecondary Education (BPPE). A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888) 370-7589 or by completing a complaint form, which can be obtained on the bureau’s internet website www.bppe.ca.gov.

Bureau of Private Postsecondary Education
P.O. Box 980818
West Sacramento, CA 95798
Tel: (888) 370-7589 or (916) 574-7720
Fax: (916) 263-1897
www.bppe.ca.gov

Graduation Requirements
A student must achieve a cumulative grade point average (CGPA) of at least 2.00 and satisfactorily complete all current curriculum requirements to graduate. Graduation will not be permitted if the best recorded grade of a required course is F, I or the designator W. Transfer credit and proficiency examination credit fulfill graduation requirements. A candidate who transferred to Brand College must complete at least 35 percent of the required credit hours at the school. Prior to receiving a certificate of completion, a student must satisfy all financial obligations to the school.
Brand College Services

Student Services
School will provide a number of vital services to students. Each student will be continually monitored and counseled as to the best course selection for his/her specific background and goals. These course goals will be re-evaluated each term, and altered if necessary. This will afford each student with a training program designed to fit his/her specific academic and personal needs. We believe that this flexibility will engender a higher rate of success for each student. Students who feel the need for extra work and instruction will be evaluated by an academic advisor and offered tutoring at no extra cost. School is dedicated to facilitating in the success of all students working to develop their computing skills and knowledge.

Tutoring Assistance - Tutoring program is open to all students, at no cost. The program provides assistance on an individual basis or a group study when this format may be more appropriate. A tutor provides the tutoring with proficiency in the subject matter of the particular academic area. Tutoring is on an appointment basis. Students who wish to participate in the program or who are interested in becoming a tutor should contact the School Director.

Learning Resources - The school library/resource center contains wide array of carefully selected resources to support the needs of the students, faculty and staff. The library/resource center has an extensive collection of books, magazines, journals, newspapers, and internet access to assist those pursuing our training programs and prepare those planning a career in the IT industry. The library/resource center is used to obtain in-depth information on the subject matter, prepare students for classroom discussions, and prepare students for the certification exams. Resources are assigned to provide students with access to course related material, including additional readings, review and lab answers, lab files, multimedia presentations, and course related web sites.

Assessment Assistance - Assessment tests are given to identify the student’s skill level in English and Math. Test scores are evaluated and measured in reference to the prerequisites of pertaining training courses. The objective is to assist admissions representative in recommending the most appropriate courses to meet the students’ skill level and educational goals.

Academic Advising - Academic advising provides students with information about the requirements for the programs offered at the school. Students can obtain an academic plan that will include admission and general education requirements, as well as courses to best prepare them for their program of study.

Placement Assistance - Placement assistance is free of charge and is provided for certified graduates. Certified graduates are referred to various companies and consulting firms in the network of schools contacts. The placement advisor will assist students in determining where their interests lie, where their strengths are and what work would provide a sense of fulfillment. Students will find assistance in investigating different career possibilities.

Testing Services - Brand College is authorized center for tests administrated by Pearson Vue and Thomson Prometric. Students may take any exam administrated by these organizations in a professional and comfortable setting.

Brand College does not have dormitory facilities under its control. Brand College does not offer student housing services and assumes no responsibility to find or assist a student in finding housing. According to Zillow.com, rentals in Glendale CA are approximately $1,100 month.
Students will also benefit from school's professional affiliation with various corporations such as Microsoft. Students will receive considerable discounts on computer products and will be able to place orders through school.

**Placement Services**
Placement assistance provides career information and referrals for part time and full time employment, resume assistance, interview preparation, career planning, occupational information and academic counseling.

Organization’s consulting wing has built a highly respected reputation in the computer industry, which will also greatly benefit students. School has established numerous contacts with various companies and consulting firms. This database of business contacts will be available to students, as well.

A staff member will be working (approximately 20 hours weekly) to develop and extend Brand College’s relationship with various outlets. This staff member will also be working to place students on an as needed basis.

School will work diligently to establish a working relationship with the placement divisions of both Cisco Inc. and Microsoft Corporation - two industry giants. These affiliations will, undoubtedly, be very valuable resources for students involved in the network training programs.

While the school offers Placement Assistance, the school cannot, in any way; guarantee employment after the student has successfully completed the program of study.

**Instructors**

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andre Abed</td>
<td>MCP, MCSE, MCT, MCTS, MCITP</td>
</tr>
<tr>
<td>Wayne Khoo</td>
<td>A+, MCSE, CCNA, CCNP, Linux+</td>
</tr>
<tr>
<td>Alfons Manouk</td>
<td>A+, MCP, MCSE, CCNA, CCNP</td>
</tr>
<tr>
<td>Myrna Martin</td>
<td>MCSE, MCT, CCNA, CCNP, CCSP</td>
</tr>
<tr>
<td>Jong Cho</td>
<td>CCNA, CCNP, CCSP</td>
</tr>
</tbody>
</table>

**Qualifications**

- **A+** CompTIA A+ (PC Hardware Technician)
- **MCP** Microsoft Certified Professional
- **MCSE** Microsoft Certified Systems Engineer
- **MCT** Microsoft Certified Trainer
- **MCTS** Microsoft Certified Technology Specialist
- **MCITP** Microsoft Certified IT Professional
- **CCNA** Cisco Certified Network Associate
- **CCNP** Cisco Certified Network Professional
- **CCSP** Cisco Certified Security Professional
- **Linux+** Linux+ (Linux Certified Professional)
**Academic Programs**

**A+ (PC Hardware Technician)**

**Program Summary**
This instructor-led program with a combination of lecture and hands-on laboratory exercises is designed for the novice without prior computer experience. Students will be introduced to computer hardware concepts and learn to build a Personal Computer (PC) from the ground up. Software concepts will be delivered via training on the newest versions of Microsoft Windows. The primary goal of this course is to give students a basic understanding of every aspect of hardware and software relating to the PC. However, the final portion of this course will introduce the student to basic networking concepts and network implementation using Microsoft Windows operating systems – a must for any individual planning to enter the IT field.

- Certification program
- 96 Contact Hours, 6 Credit Hours, 12 Weeks

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Name</th>
<th>Quarter Credit Hours</th>
<th>Clock Hours</th>
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</thead>
<tbody>
<tr>
<td>IPC100</td>
<td>PC I</td>
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<td><strong>96</strong></td>
</tr>
</tbody>
</table>

**Prerequisites**
There are no prerequisites required to attend this course.

**Type of Document Received Upon Graduation**
Upon successful completion of all program requirements, each student will be awarded a Certificate of Completion.

**Certification Tests**
All certification exams are scored on a pass/fail basis. Depending on the specific exam, a correct response to 75% - 80% of the questions will be required to achieve a passing score. Students are encouraged to take exams immediately following completion of the corresponding course.

**Career Development**
Students who successfully complete this program will be prepared for entry to midlevel professional opportunities in the IT field with emphasis on client workstation or desktop hardware, software and operating system support. Although titles may vary by hiring organizations, students with these credentials are qualified to meet the requirements of positions such as Desktop Support Technician, PC Technician, Helpdesk Support, Computer Hardware Engineer or similar designations.

This program also aligns with the following career opportunities classified by US Department of Labor under the Standard Occupational Classification (SOC) system.

- 15-1151 Computer User Support Specialist
- 17-2061 Computer Hardware Engineers

**Recommended Next Course**
Candidates wishing to further their education are recommended to consider the Microsoft certifications in client/server technologies as the next step toward becoming a well rounded IT professional.
A+ Program Details

COURSE IPC100
Title: PC Hardware and Operating System
Exam: CompTIA Exams 220-801 and 220-802

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises is designed to introduce the students to computer hardware concepts and the skills required to build a Personal Computer (PC) from the ground up. In addition, students will learn software concepts with the newest versions of Microsoft Windows. The primary goal of this course is to give students a basic understanding of every aspect of hardware and software relating to the PC. However, the final portion of this course will introduce the student to basic networking concepts and network implementation using Microsoft Windows operating systems.

Course Objectives
This course will cover the following subjects:

- Skills in Managing and Troubleshooting PCs
- Operational Procedures
- Perform Preventive Maintenance
- Diagnostics and Troubleshooting
- Professionalism and Communication
- Safety and Tools
- Personal Computer Components
- System Unit Components
- Personal Computer Connection Methods
- Tools of the Trade
- Display Devices
- Input Devices
- Adapter Cards
- Multimedia Devices
- Storage Devices
- Power Supplies
- Memory
- CPUs
- System Boards
- BIOS
- Personal Computer Operating Systems
- Windows User Interface Components
- Windows File System Management
- Windows System Management Tools
- Install, Upgrade, and Optimize Microsoft Windows
- Operating System Utilities
- Maintain and Troubleshoot Microsoft Windows
- Recover Microsoft Windows
- Command Line Interface
- Network Concepts and Communications
- Network Connectivity
- Wireless Networks
- Create Network Connections
- Internet Technologies
- Virtualization
- Install and Configure Web Browser
- Maintain and Troubleshoot Network Connections
- Laptop and Portable Computing Device Components
- Printer and Scanner Technologies
- Printer and Scanner Components
- Printer and Scanner Processes
- Install and Configure Printers and Scanners
- Maintain and Troubleshoot Printers and Scanners
- Security Fundamentals
- Security Protection Measures
- Data and Physical Security
- Wireless Security
- Social Engineering
- Install and Configure Security Measures
- Maintain and Troubleshoot Security Measures
- Virtualization
Microsoft Certified System Engineer (MCSE)

Program Summary
This instructor-led program with a combination of lecture and hands-on laboratory exercises is designed to provide students with the knowledge required for a career in computer networking, with an emphasis on Microsoft operating systems including Windows Server 2012. Students will be guided through the features of the Microsoft operating systems and will learn how to implement, manage and maintain both workstations and servers in a Microsoft Windows networking environment. Additional topics include network infrastructure services that are required to support a Windows network including Active Directory, Name Resolution, TCP/IP and IP assignment, Windows Security, and Remote Access. This program will provide students with the skills and knowledge necessary to complete the Microsoft certification exams required to become a Microsoft Certified System Engineer (MCSE).

- Certification program
- 480 Contact Hours, 30 Credit Hours, 60 Weeks

TERM 1

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<th>Course Name</th>
<th>Quarter Credit Hours</th>
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<tr>
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<td>Windows I</td>
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<tr>
<td>MCS110</td>
<td>Windows II</td>
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<td><strong>6</strong></td>
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TERM 2

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<th>Quarter Credit Hours</th>
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<td>MCS120</td>
<td>Windows III</td>
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<td>MCS130</td>
<td>Windows IV</td>
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TERM 3

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<td>Windows V</td>
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<tr>
<td>MCS150</td>
<td>Windows VI</td>
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<td>MCS160</td>
<td>Windows VII</td>
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<tr>
<td>MCS170</td>
<td>Windows VIII</td>
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TERM 5

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</thead>
<tbody>
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<td>Windows VIII</td>
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<td>96</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
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<td><strong>96</strong></td>
</tr>
</tbody>
</table>
Prerequisites
Candidates wishing to enter this course should have completed the A+ PC Hardware Technician coursework or have commensurate experience with PC hardware and basic operating system concepts.

Type of Document Received Upon Graduation
Upon successful completion of all program requirements, each student will be awarded a Certificate of Completion.

Certification Tests
All certification exams are scored on a pass/fail basis. Depending on the specific exam, a correct response to 75% - 80% of the questions will be required to achieve a passing score. Students are encouraged to take exams immediately following completion of the corresponding course.

Career Development
Students who successfully complete this program will be prepared for entry to midlevel professional opportunities in the IT field with emphasis on planning, installation, and maintenance of client workstation as well as server operating system, applications and network infrastructure services using Microsoft technologies. Although titles may vary by hiring organizations, students with these credentials are qualified to meet the requirements of positions such as Desktop and Server Support Technician, Server Administrator, Network Administrator, Windows Server Administrator or similar designations.

This program also aligns with the following career opportunities classified by US Department of Labor under the Standard Occupational Classification (SOC) system.

- 15-1151 Computer User Support Specialist
- 15-1141 Database Administrators

Recommended Next Course
Candidates wishing to further their education are recommended to consider the Cisco Certified Network Associate (CCNA) program or the Linux+ certification course as the next logical step towards becoming a well rounded IT professional.
MCSE Program Details

COURSE MCS100
Title: Installing and configuring Windows Server 2012
Exam: Microsoft Exam 70-410

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to install, configure, and maintain Windows Server 2012. This course is intended for Windows Server 2012 Technology Specialists, in Network Infrastructure and Active Directory, who are interested in learning professional level Server Administrator skills to plan, manage, and maintain Windows Server 2012.

Course Objectives
This course will cover the following subjects:

Deploying and Managing Windows Server 2012
- Windows Server 2012 Overview
- Installing Windows Server 2012
- Post-Installation Configuration of Windows Server 2012
- Overview of Windows Server 2012 Management
- Introduction to Windows PowerShell

Introduction to Active Directory Domain Services
- Overview of AD DS
- Overview of Domain Controllers
- Installing a Domain Controller

Managing Active Directory Domain Services Objects
- Managing User Accounts
- Managing Groups
- Managing Computer Accounts
- Delegating Administration
- Delegate permissions to perform AD DS administration.

Automating Active Directory Domain Services
- Using Command-line Tools for AD DS Administration
- Using Windows PowerShell for AD DS Administration
- Performing Bulk Operations with Windows PowerShell

Implementing IPv4
- Overview of TCP/IP
- Understanding IPv4 Addressing
- Subnetting and Supernetting
- Configuring and Troubleshooting IPv4

Implementing DHCP
- Overview of the DHCP Server Role
- Configuring DHCP Scopes
- Managing a DHCP Database
- Securing and Monitoring DHCP
Implementing DNS
- Name Resolution for Windows Clients and Servers
- Installing a DNS Server
- Managing DNS Zones

Implementing IPv6
- Overview of IPv6
- IPv6 Addressing
- Coexistence with IPv4
- IPv6 Transition Technologies

Implementing Local Storage
- Overview of Storage
- Managing Disks and Volumes
- Implementing Storage Spaces

Implementing File and Print Services
- Securing Files and Folders
- Protecting Shared Files and Folders by Using Shadow Copies
- Configuring Work Folders
- Configuring Network Printing

Implementing Group Policy
- Overview of Group Policy
- Group Policy Processing
- Implementing a Central Store for Administrative Templates

Securing Windows Servers Using Group Policy Objects
- Security Overview for Windows Operating Systems
- Configuring Security Settings
- Restricting Software
- Configuring Windows Firewall with Advanced Security

Implementing Server Virtualization with Hyper-V
- Overview of Virtualization Technologies
- Implementing Hyper-V
- Managing Virtual Machine Storage
- Managing Virtual Networks
COURSE MCS110
Title: Administering Windows Server 2012
Exam: Microsoft Exam 70-411

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to administer and troubleshoot a Windows Server 2012 network infrastructure. Students will learn to implement and configure secure network access and implement fault tolerant storage technologies. Students will gain an understanding of the network technologies most commonly used with Windows Server 2012 and IP-enabled networks. Students will also learn how to secure servers and maintain update compliance.

Course Objectives
This course will cover the following subjects:

Configuring and Troubleshooting Domain Name System
- Configuring the DNS Server Role
- Configuring DNS Zones
- Configuring DNS Zone Transfers
- Managing and Troubleshooting DNS

Maintaining Active Directory Domain Services
- Overview of AD DS
- Implementing Virtualized Domain Controllers
- Implementing RODCs
- Administering AD DS
- Managing the AD DS Database

Managing User and Service Accounts
- Configuring Password Policy and User Account Lockout Settings
- Configuring Managed Service Accounts

Implementing a Group Policy Infrastructure
- Introducing Group Policy
- Implementing and Administering GPOs
- Group Policy Scope and Group Policy Processing
- Troubleshooting the Application of GPOs

Managing User Desktops with Group Policy
- Implementing Administrative Templates
- Configuring Folder Redirection and Scripts
- Configuring Group Policy Preferences
- Managing Software with Group Policy

Installing, Configuring, and Troubleshooting the Network Policy Server Role
- Installing and Configuring a Network Policy Server
- Configuring RADIUS Clients and Servers
- NPS Authentication Methods
- Monitoring and Troubleshooting a Network Policy Server
Implementing Network Access Protection
- Overview of Network Access Protection
- Overview of NAP Enforcement Processes
- Configuring NAP
- Configuring IPSec Enforcement for NAP
- Monitoring and Troubleshooting NAP

Implementing Remote Access
- Overview of Remote Access
- Implementing DirectAccess by Using the Getting Started Wizard
- Implementing and Managing an Advanced DirectAccess Infrastructure
- Implementing VPN
- Implementing Web Application Proxy

Optimizing File Services
- Overview of FSRM
- Using FSRM to Manage Quotas, File Screens, and Storage Reports
- Implementing Classification and File Management Tasks
- Overview of DFS
- Configuring DFS Namespaces
- Configuring and Troubleshooting DFS Replication

Configuring Encryption and Advanced Auditing
- Encrypting Drives by Using BitLocker
- Encrypting Files by Using EFS
- Configuring Advanced Auditing

Deploying and Maintaining Server Images
- Overview of Windows Deployment Services
- Managing Images
- Implementing Deployment with Windows Deployment Services
- Administering Windows Deployment Services

Implementing Update Management
- Overview of WSUS
- Deploying Updates with WSUS

Monitoring Windows Server 2012
- Monitoring Tools
- Using Performance Monitor
- Monitoring Event Logs
COURSE MCS120
Title: Configuring advanced Windows Server 2012 Services
Exam: Microsoft Exam 70-412

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience implementing, managing and maintaining a Windows Server 2012 or Windows Server 2012 R2 environment who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Implementing Advanced Network Services
- Configuring Advanced DHCP Features
- Configuring Advanced DNS Settings
- Implementing IPAM
- Managing IP Address Spaces with IPAM

Implementing Advanced File Services
- Configuring iSCSI Storage
- Configuring BranchCache
- Optimizing Storage Usage

Implementing Dynamic Access Control
- Overview of DAC
- Implementing DAC Components
- Implementing DAC for Access Control
- Implementing Access Denied Assistance
- Implementing and Managing Work Folders

Implementing Distributed Active Directory Domain Services Deployments
- Overview of Distributed AD DS Deployments
- Deploying a Distributed AD DS Environment
- Configuring AD DS Trusts

Implementing Active Directory Domain Services Sites and Replication
- AD DS Replication Overview
- Configuring AD DS Sites
- Configuring and Monitoring AD DS Replication

Implementing AD CS
- Using Certificates in a Business Environment
- PKI Overview
- Deploying CAs
- Deploying and Managing Certificate Templates
- Implementing Certificate Distribution and Revocation
- Managing Certificate Recovery
Implementing Active Directory Rights Management Services
- AD RMS Overview
- Deploying and Managing an AD RMS Infrastructure
- Configuring AD RMS Content Protection
- Configuring External Access to AD RMS

Implementing and Administering AD FS
- Overview of AD FS
- Deploying AD FS
- Implementing AD FS for a Single Organization
- Deploying AD FS in a Business-to-Business Federation Scenario
- Extending AD FS to External Clients

Implementing Network Load Balancing
- Overview of NLB
- Configuring an NLB Cluster
- Planning an NLB Implementation

Implementing Failover Clustering
- Overview of Failover Clustering
- Implementing a Failover Cluster
- Configuring Highly Available Applications and Services on a Failover Cluster
- Maintaining a Failover Cluster
- Implementing a Multi-Site Failover Cluster

Implementing Failover Clustering with Hyper-V
- Overview of Integrating Hyper-V with Failover Clustering
- Implementing Hyper-V Virtual Machines on Failover Clusters
- Implementing Hyper-V Virtual Machine Movement

Implementing Business Continuity and Disaster Recovery
- Data Protection Overview
- Implementing Windows Server Backup
- Implementing Server and Data Recovery
**COURSE MCS130**

Title: Installing and Configuring Windows 10  
Exam: Microsoft Exam 70-697

**Course Description**  
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills required to install and configure Windows 10 desktops and devices in a Windows Server domain corporate environment. These skills include learning how to install and customize Windows 10 operating systems and apps, and configure local and remote network connectivity and storage. Students will also learn how to configure data security, device security, and network security, and maintain, update, and recover Windows 10.

**Course Objectives**  
This course will cover the following subjects:

*Overview of Windows 10*
- Introducing Windows 10
- Navigating the User Interface

*Installing Windows 10*
- Installing Windows 10
- Upgrading to Windows 10

*Configuring your Device*
- Overview of Tools You Can Use to Configure Windows 10
- Common Configuration Options
- Managing User Accounts
- Using OneDrive

*Configuring Network Connectivity*
- Configuring IP Network Connectivity
- Implementing Name Resolution
- Implementing Wireless Network Connectivity
- Overview of Remote Access

*Managing Storage*
- Overview of Storage Options
- Managing Disks, Partitions, and Volumes
- Maintaining Disks and Volumes
- Managing Storage Spaces

Managing Files and Printers
- Overview of File Systems
- Configuring and Managing File Access
- Configuring and Managing Shared Folders
- Work Folders
- Managing Printers
Managing Apps in Windows 10
- Overview of Providing Apps to Users
- The Windows Store
- Web Browsers

Managing Data Security
- Overview of Data-Related Security Threats
- Security Data with EFS
- Implementing and Managing BitLocker

Managing Device Security
- Using Security Settings to Migrate Threats
- Configuring UAC
- Configuring Application Restriction

Managing Network Security
- Overview of Network-Related Security Threats
- Windows Firewall
- Connection Security Rules
- Windows Defender

Troubleshooting and recovery
- Managing Devices and Drives
- Recovering Files
- Recovering Devices

Maintaining Windows 10
- Updating Windows
- Monitoring Windows 10
- Optimizing Performance
COURSE MCS140
Title: Designing and Implementing a Server Infrastructure
Exam: Microsoft Exam 70-413

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Planning Server Upgrade and Migration
- Consideration for Upgrades and Migrations
- Creating a Server Upgrade and Migration Plan
- Planning for Virtualization

Planning and Implementing a Server Deployment Strategy
- Selecting an Appropriate Server deployment Strategy
- Implementing an Automated Deployment Strategy

Planning and Deploying Servers Using Virtual Machine Manager
- System Center 2012 R2 Virtual Machine Manger Overview
- Implementing a Virtual Machine Manager Library and Profiles
- Planning and Deploying Virtual Machine Manager Services

Designing and Maintaining an IP Configuration and Address Management Solution
- Designing DHCP Servers
- Planning DHCP Scopes
- Designing an IPAM Provisioning Strategy
- Managing Servers and Address Spaces by Using IPAM

Designing and Implementing Name Resolution
- Designing DNS Server Implementation Strategy
- Designing the DNS Namespace
- Designing DNS Zones
- Designing DNS Zone Replication and Delegation

Designing and Implementing an Active Directory Domain Services Forest and Domain Infrastructure
- Designing an Active Directory Forest
- Designing and Implementing Active Directory Forest Trusts
- Designing Active Directory Integration with Windows Azure Active Directory
- Designing and Implementing Active Directory Domains

Designing and Implementing an AD DS Organizational Unit Infrastructure
- Planning the Active Directory Administrative Tasks Delegation Model
- Designing an OU Structure
- Designing and Implementing an AD DS Group Strategy
Designing and Implementing a Group Policy Object Strategy
- Collecting the information Required for a GPO Design
- Designing and Implementing GPOs
- Designing GPO Processing
- Planning Group Policy Management

Designing and Implementing an AD DS Physical Topology
- Designing and Implementing Active Directory Sites
- Designing Active Directory Replication
- Designing the placement of Domain Controllers
- Designing Highly Available Domain Controllers

Planning and Implementing Storage and File Services
- Planning and Implementing iSCSI SANs
- Planning and Implementing Storage Spaces
- Optimizing File Services for Branch Offices

Designing and Implementing Network Protection
- Overview of Network Security Design
- Designing and Implementing a Windows Firewall Strategy
- Designing and Implementing a NAP Infrastructure

Designing and Implementing Remote Access Services
- Planning and Implementing DirectAccess
- Planning and Implementing VPN
- Planning and Implementing Web Application Proxy
- Planning a Complex Remote Access Infrastructure
COURSE MCS150
Title: Implementing an Advanced Server Infrastructure
Exam: Microsoft Exam 70-414

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Advanced Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Overview of Management in an Enterprise Data Center
- Overview of the Enterprise Data Center
- Overview of the Microsoft System Center 2012 R2 Components

Planning and Implementing a Server Virtualization Strategy
- Planning a VMM Deployment
- Planning and Implementing a Server Virtualization Host Environment

Planning and Implementing Networks and Storage for Virtualization
- Planning a Storage Infrastructure for Virtualization
- Implementing a Storage Infrastructure for Virtualization
- Planning and Implementing Network Infrastructure for Virtualization
- Planning and Implementing Network Virtualization

Planning and Deploying Virtual Machines
- Planning a Virtual Machine Configuration
- Preparing for Virtual Machine Deployments with VMM
- Deploying Virtual Machines
- Planning and Implementing Hyper-V Replica

Planning and Implementing a Virtualization Administration Solution
- Planning and Implementing Automation with System Center 2012
- Planning and Implementing System Center 2012 Administration
- Planning and Implementing Self-Service Options in System Center 2012
- Planning and Implementing Updates in a Server Virtualization Infrastructure

Planning and Implementing a Server Monitoring Strategy
- Planning Monitoring in Windows Server 2012
- Overview of Operations Manager
- Planning and Configuring Monitoring Components
- Configuring Integration with VMM

Planning and Implementing High Availability for Files Services and Applications
- Planning and Implementing Storage Spaces
- Planning and Implementing a DFS
- Planning and Implementing a NLB
Planning and Implementing a High Availability Infrastructure Using Failover Clustering
- Planning an Infrastructure for Failover Clustering
- Implementing Failover Clustering
- Planning and Implementing Updates for Failover Clusters
- Integrating Failover Clustering with Server Virtualization
- Planning a Multisite Failover Cluster

Planning and Implementing a Business Continuity Strategy
- Overview of Business Continuity Planning
- Planning and Implementing Backup Strategies
- Planning and Implementing Recovery
- Planning and Implementing Backup and Recovery of Virtual Machines

Planning and Implementing a Public Key Infrastructure
- Planning and Implementing Deployment of a Certification Authority
- Planning and Implementing Certificate Templates
- Planning and Implementing Certificate Distribution and Revocation
- Planning and Implementing Key Archival and Recovery

Planning and Implementing an Identity Federation Infrastructure
- Planning and Implementing an AD FS Server Infrastructure
- Planning and Implementing AD FS Claim Providers and Relying Parties
- Planning and Implementing AD FS Claims and Claim Rules
- Planning and Implementing Web Application Proxy

Planning and Implementing Data Access for Users and Devices
- Planning and Implementing DAC
- Planning Workplace Join
- Planning Work Folders

Planning and Implementing an Information Rights Management Infrastructure
- AD RMS Overview
- Planning and Implementing an AD RMS Cluster
- Planning and Implementing AD RMS Templates and Policies
- Planning and Implementing External Access to AD RMS Services
- Planning and Implementing AD RMS Integration with Dynamic Access Control
COURSE MCS160
Title: Core Solutions of Microsoft Exchange Server 2013
Exam: Microsoft Exam 70-341

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to plan, deploy, manage, secure, and support Microsoft® Exchange Server 2013. This course will teach audience how to configure Exchange Server 2013 and supply them with the information they will need to monitor, maintain, and troubleshoot Exchange Server 2013. This course will also provide guidelines, best practices, and considerations that will help students optimize performance and minimize errors and security threats in Exchange Server 2013. To teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Advanced Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Deploying and Managing Microsoft Exchange Server 2013
- Exchange Server 203 Prerequisites and Requirements
- Exchange Server 2013 Deployment
- Managing Exchange Server 2013

Planning and Configuring Mailbox Servers
- Overview of the Mailbox Server
- Planning the Mailbox Server Deployment
- Configuring the Mailbox Servers

Managing Recipient Objects
- Managing Exchange Server 2013 Mailboxes
- Managing Other Exchange Recipients
- Planning and Implementing Public Folder Mailboxes
- Managing Address Lists and Policies

Planning and Deploying Client Access Servers
- Planning Client Access Server Deployment
- Configuring the Client Access Server Role
- Managing Client Access Services

Planning and Configuring Messaging Client Connectivity
- Client Connectivity to the Client Access Server
- Configuring Outlook Web App
- Planning and Configuring Mobile Messaging
- Configuring Secure Internet Access for Client Access Server

Planning and Implementing High Availability
- High Availability on Exchange Server 2013
- Configuring Highly Available Mailbox Databases
- Configuring Highly Available Client Access Server
Planning and Implementing Disaster Recovery
- Planning for Disaster Mitigation
- Planning and Implementing Exchange Server 2013 Backup
- Planning and Implementing Exchange Server 2013 Recovery

Planning and Configuring Message Transport
- Overview of Message Transport and Routing
- Planning and Configuring Message Transport
- Managing Transport Rules

Planning and Configuring Message Hygiene
- Planning Messaging Security
- Implementing an Antivirus Solution for Exchange Server 2013
- Implementing and Anti-Spam Solution for Exchange Server 2013

Planning and Configuring Administrative Security and Auditing
- Configuring Role-Based Access Control
- Configuring Audit Logging

Monitoring and Troubleshooting Microsoft Exchange Server 2013
- Monitoring Exchange Server 2013
- Maintaining Exchange Server 2013
- Troubleshooting Exchange Server 2013
COURSE MCS170
Title: Advanced Solutions of Microsoft Exchange Server 2013
Exam: Microsoft Exam 70-342

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides Students with the knowledge and skills to configure and manage a Microsoft Exchange Server 2013 messaging environment. This course will teach students how to configure Exchange Server 2013, and it will provide guidelines, best practices, and considerations that will help them optimize your Exchange Server deployment.

Course Objectives
This course will cover the following subjects:

Overview of Exchange Server 2013 Unified Messaging
- Telephony Technologies Overview
- Unified Messaging in Exchange Server 2013
- Unified Messaging Components

Designing and Implementing Exchange Server 2013 Unified Messaging
- Designing a Unified Messaging Deployment
- Deploying and Configuring Unified Messaging Components
- Integrating Exchange Server 2013 Unified Messaging with Lync

Designing and Implementing Site Resiliency
- Site Resiliency in Exchange 2013
- Planning Site Resilient Implementation
- Implementing Site Resiliency

Planning Virtualization for Exchange Server 2013
- Hyper-V 3.0 Overview
- Virtualizing Exchange Server 2013 Server Roles

Designing and Implementing Message Transport Security
- Overview of Policy and Compliance Requirements
- Designing and Implementing Transport Compliance
- Designing and Implementing AD RMS Integration with Exchange Server 2013

Designing and Implementing Message retention
- Message Records Management and Archiving Overview
- Designing In-Place Archiving
- Designing and Implementing Message Retention

Designing and Implementing Messaging Compliance
- Designing and Implementing Data Loss Prevention
- Designing and Implementing an In-Place Hold
- Designing and Implementing In-Place E-Discovery
Designing and Implementing Administrative Security and Auditing
- Designing and Implementing Role Based Access Control
- Designing and Implementing Split Permissions
- Planning and Implementing Audit Logging

Managing Exchange Server 2013 with Exchange Management Shell
- Overview of Windows PowerShell 3.0
- Using Exchange Management Shell to Manage Exchange Server Recipients
- Managing Exchange Server 2013 with Exchange Management Shell

Designing and Implementing Integration with Exchange Online
- Planning for Exchange Online
- Planning and Implementing the Migration to Exchange Online
- Planning Coexistence with Exchange Online

Designing and Implementing Messaging Coexistence
- Designing and Implementing Federation
- Designing Coexistence Between Exchange Organizations
- Designing and Implementing Cross-Forest Mailbox Moves

Designing and Implementing Exchange Server Migrations and Upgrades
- Designing Migration From Non-Exchange Email Systems
- Planning the Upgrade From Previous Exchange Versions
- Implementing the Migration from Previous Exchange Versions
COURSE MCS180
Title: Managing Office 365 Identities and Services
Exam: Microsoft Exam 70-346 & 70-347

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides Students with the knowledge and skills required the needs of IT professionals who take part in evaluating, planning, deploying, and operating Office 365 services, including its identities, dependencies, requirements, and supporting technologies. This course focuses on skills required to set up an Office 365 tenant, including federation with existing user identities, and skills required to sustain an Office 365 tenant and users.

Course Objectives
This course will cover the following subjects:

Preparing for Office 365
- Introduction to Office 365
- Provisioning the Tenant Accounts
- Planning a Pilot
- Enabling Client Connectivity

Managing Users, Groups, and Licenses
- Manage Users and Licenses by Using the Administration Center
- Managing Security and Distribution Groups
- Manage Cloud Identities with Windows PowerShell

Administering Office 365
- Manage Administrator Roles in Office 365
- Configure Password Management
- Administer Rights Management

Planning and Managing Clients
- Plan for Office Clients
- Manage User-Driven Client Deployments
- Manage IT Deployments of Office 365 ProPlus
- Office Telemetry and Reporting

Planning DNS and Exchange Migration
- Add and Configure Custom Domains
- Recommend a Mailbox Migration Strategy

Planning Exchange Online and Configuring DNS Records
- Plan for Exchange Online
- Continue DNS Records for Services

Administering Exchange Online
- Configure Personal Archive Policies
- Manage Anti-Malware and Anti-Spam Policies
- Configure Additional Email Addresses for Users
- Create and Manage External Contacts, Resources, and Groups
Configuring SharePoint Online
- Manage SharePoint Site Collections
- Configure External User Sharing
- Plan a Collaboration Solution

Configuring Lync Online
- Plan for Lync Online
- Configure Lync Online Settings

Implementing Directory Synchronization
- Prepare On-Premises Active Directory for DirSync
- Set up DirSync
- Manage Active Directory Users and Groups with DirSync In Place

Implementing Active Directory Federation Services
- Planning for AD FS
- Install and Manage AD FS Servers
- Install and Manage AD FS Proxy Servers

Monitoring Office 365
- Isolate Service Interruption
- Monitor Service Health
- Analyze Reports
Cisco Certified Network Associate (CCNA)

Program Summary
This instructor-led program with a combination of lecture and hands-on laboratory exercises validates the ability to install, configure, operate, and troubleshoot medium-size route and switched networks, including implementation and verification of connections to remote sites in a WAN. CCNA curriculum includes basic mitigation of security threats, introduction to wireless networking concepts and terminology, and performance-based skills. This new curriculum also includes (but is not limited to) the use of these protocols: IP, Enhanced Interior Gateway Routing Protocol (EIGRP), Serial Line Interface Protocol Frame Relay, Routing Information Protocol Version 2 (RIPv2), VLANs, Ethernet, access control lists (ACLs).

- Certification program
- 96 Contact Hours, 6 Credit Hours, 12 Weeks

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Prerequisites
Candidates wishing to enter this course should have completed either a Microsoft or Linux+ networking program or have commensurate experience with PC networking and TCP/IP.

Type of Document Received Upon Graduation
Upon successful completion of all program requirements, each student will be awarded a Certificate of Completion.

Certification Tests
All certification exams are scored on a pass/fail basis. Depending on the specific exam, a correct response to 75% - 80% of the questions will be required to achieve a passing score. Students are encouraged to take exams immediately following completion of the corresponding course.

Career Development
Students who successfully complete this program will be prepared for entry to midlevel professional opportunities in the IT field with emphasis on installation, configuration and maintenance of Local Area Network (LAN) infrastructure. Although titles may vary by hiring organizations, students with these credentials are qualified to meet the requirements of positions such as Network Engineer, Network Support Specialist, Local Area Network Engineer, Network Systems Engineer or similar designations.

This program also aligns with the following career opportunities classified by US Department of Labor under the Standard Occupational Classification (SOC) system.

- 15-1142 Network and Computer System Administrators
- 15-1152 Computer Network Support Specialist

Recommended Next Course
Candidates wishing to further their education are recommended to consider the Cisco Certified Network Professional (CCNP) program as the next logical step towards becoming a well rounded IT professional.
CCNA Program Details

COURSE CCA100
Title: Cisco Certified Network Associate
Exam: 200-120

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises covers basic networking concepts implemented on Cisco routers. Students will be introduced to the Cisco Internetworking Operating System (IOS) and its command structure. TCP/IP addressing and implementation, including subnetting, will be covered thoroughly. Wide Area Networking (WAN) implementations including ISDN, frame relay, and serial point-to-point (including T1), will be emphasized. This is an advanced course providing the skills and knowledge necessary to pass the Cisco certification exam (one exam) necessary to become a Cisco Certified Network Associate (CCNA).

Course Objectives
This course will cover the following subjects:

Operation of IP Data Networks
- Recognize the purpose and functions of various network devices such as Routers, Switches, Bridges and Hubs
- Select the components required to meet a given network specification
- Identify common applications and their impact on the network
- Describe the purpose and basic operation of the protocols in the OSI and TCP/IP models
- Predict the data flow between two hosts across a network
- Identify the appropriate media, cables, ports, and connectors to connect Cisco network devices to other network devices and hosts in a LAN

LAN Switching Technologies
- Determine the technology and media access control method for Ethernet networks
- Identify basic switching concepts and the operation of Cisco switches
- Configure and verify initial switch configuration including remote access management
- Verify network status and switch operation using basic utilities
- Describe how VLANs create logically separate networks and the need for routing between them
- Configure and verify VLANs
- Configure and verify trunking on Cisco switches
- Identify enhanced switching technologies
- Configure and verify PVSTP operation

IP Addressing
- Describe the operation and necessity of using private and public IP addresses for IPv4 addressing
- Identify the appropriate IPv6 addressing scheme to satisfy addressing requirements in a LAN/WAN environment
- Identify the appropriate IPv4 addressing scheme using VLSM and summarization to satisfy addressing requirements in a LAN/WAN environment
- Describe the technological requirements for running IPv6 in conjunction with IPv4
- Describe IPv6 addresses

IP Routing Technologies
- Describe basic routing concepts
- Configure and verify utilizing the CLI to set basic router configuration
- Configure and verify operation status of a device interface
- Verify router configuration and network connectivity using
- Configure and verify routing configuration for a static or default route given specific routing requirements
- Differentiate methods of routing and routing protocols
- Configure and verify OSPF
- Configure and verify interVLAN routing (Router on a stick)
- Configure SVI interfaces
- Manage Cisco IOS Files
- Configure and verify EIGRP (single AS)

**IP Services**
- Configure and verify DHCP (IOS Router)
- Describe the types, features, and applications of ACLs
- Configure and verify ACLs in a network environment
- Identify the basic operation of NAT
- Configure and verify NAT for given network requirements
- Configure and verify NTP as a client
- Recognize High availability (FHRP)
- Configure and verify syslog
- Describe SNMP v2 and v3

**Network Device Security**
- Configure and verify network device security features
- Configure and verify switch port security
- Configure and verify ACLs to filter network traffic
- Configure and verify an ACLs to limit telnet and SSH access to the router

**Troubleshooting**
- Troubleshoot and correct common problems associated with IP addressing and host configurations
- Troubleshoot and resolve VLAN problems
- Troubleshoot and resolve trunking problems on Cisco switches
- Troubleshoot and resolve ACL issues
- Troubleshoot and resolve Layer 1 problems
- Identify and correct common network problems
- Troubleshoot and resolve spanning tree operation issues
- Troubleshoot and resolve routing issues
- Troubleshoot and resolve OSPF problems
- Troubleshoot and resolve EIGRP problems
- Troubleshoot and resolve interVLAN routing problems
- Troubleshoot and resolve WAN implementation issues
- Monitor NetFlow statistics
- Troubleshoot EtherChannel problems

**WAN Technologies**
- Identify different WAN Technologies
- Configure and verify a basic WAN serial connection
- Configure and verify a PPP connection between Cisco routers
- Configure and verify frame relay on Cisco routers
- Implement and troubleshoot PPPoE
Cisco Certified Network Professional (CCNP Routing & Switching)

Program Summary
This instructor-led program with a combination of lecture and hands-on laboratory exercises is designed to build advanced or journeyman knowledge of both LAN and WAN infrastructure implementations in a Cisco environment. This set of courses builds on the concepts introduced in the CCNA program. Students will be exposed to more in-depth concepts relating to routing implementation and design; TCP/IP design strategies; switching concepts; WAN optimization and performance issues; as well as, basic troubleshooting/support techniques and approaches. Some of the many protocols that will be studied include: TCP/IP, RIP, EIGRP, OSPF, IS-IS, BGP. Other topics include: VLAN implementation and management; spanning-tree protocol; multicast management; remote access implementation; Cisco security features including AAA; subnet concepts, design considerations, and implementation; VLSM; CIDR and more. These are advanced courses providing the skills and knowledge necessary to pass the Cisco certification exams (three exams) necessary to become a Cisco Certified Network Professional (CCNP).

➢ Certification program  
➢ 192 Contact Hours, 12 Credit Hours, 24 Weeks

TERM 1

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TERM 2

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Prerequisites
Candidates wishing to enter this course should have completed the Cisco Certified Network Associate program or have commensurate experience WAN technologies in a Cisco environment.

Type of Document Received Upon Graduation
Upon successful completion of all program requirements, each student will be awarded a Certificate of Completion.

Certification Tests
All certification exams are scored on a pass/fail basis. Depending on the specific exam, a correct response to 75% - 80% of the questions will be required to achieve a passing score. Students are encouraged to take exams immediately following completion of the corresponding course.

Career Development
Students who successfully complete this program will be prepared for midlevel professional opportunities in the IT field with emphasis on design, installation, and configuration of Local Area Network (LAN) and Wide Area Network (WAN) infrastructure. Although titles may vary by hiring organizations, students with
these credentials are qualified to meet the requirements of positions such as Sr. Network Engineer, Sr. Network Support Specialist, SR. WAN Engineer, Sr. LAN/WAN Engineer or similar designations.

This program also aligns with the following career opportunities classified by US Department of Labor under the Standard Occupational Classification (SOC) system.

- 15-1152 Computer Network Support Specialists
- 15-1143 Computer Network Architects
- 25-1021 Computer Science Teachers, Postsecondary

**Recommended Next Course**
Candidates wishing to further their education are recommended to consider the Cisco Certified Security Professional (CCNP Security) program as the next logical step towards becoming a well rounded IT professional.
CCNP Program Details

COURSE CCP100
Title:  Implementing Cisco IP Routing (ROUT)
Exam:  300-101

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises will certify that the successful candidate has important knowledge and skills necessary to use advanced IP addressing and routing in implementing scalability for Cisco ISR routers connected to LANs and WANs. The exam covers topics on Advanced IP Addressing, Routing Principles, Multicast Routing, IPv6, Manipulating Routing Updates, Configuring basic BGP, Configuring EIGRP, OSPF, and IS-IS.

Course Objectives
This course will cover the following subjects:

- Identify Cisco Express Forwarding Concepts
- Explain General Network Challenges
- Describe IP Operations
- Explain TCP Operations
- Describe UDP Operations
- Recognize Proposed Changes to the Network
- Configure and Verify PPP
- Explain Frame Relay
- Identify, Configure, and Verify IPv4 addressing and subnetting
- Identify IPv6 Addressing and Subnetting
- Configure and Verify Static Routing
- Configure and Verify Default Routing
- Evaluate Routing Protocol Types
- Configure and Verify GRE
- Describe DMVPN
- Describe Easy Virtual Networking
- Describe IOS AAA Using Local Database
- Describe Device Security Using IOS AAA with TACACS+ and RADIUS
- Configure and Verify Device Access Control
- Configure and Verify Router Security Features
- Configure and Verify Device Management
- Configure and Verify SNMP
- Configure and Verify Logging
- Configure and Verify Network Time Protocol
- Configure and Verify IPv4 and IPv6 DHCP
- Configure and Verify IPv4 Network Address Translation
- Describe IPv6 NAT
- Describe SLA Architecture
- Configure and Verify IP SLA
- Configure and Verify Tracking Objects
- Configure and Verify Cisco NetFlow
COURSE CCP110
Title: Implementing Cisco Switched Network (SWITCH)
Exam: 300-115

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises will certify that the successful candidate has important knowledge and skills necessary to implement scalable multilayer switched networks. The exam includes topics on Campus Networks, describing and implementing advanced Spanning Tree concepts, VLANs and Inter-VLAN routing, High Availability, Wireless Client Access, Access Layer Voice concepts, and minimizing service Loss and Data Theft in a Campus Network.

Course Objectives
This course will cover the following subjects:

- Configure and Verify Switch Administration
- Configure and Verify Layer 2 Protocols
- Configure and Verify VLANs
- Configure and Verify Trunking
- Configure and Verify EtherChannels
- Configure and Verify Spanning Tree
- Configure and Verify Other LAN Switching Technologies
- Describe Chassis Virtualization and Aggregation Technologies
- Configure and Verify Switch Security Features
- Describe Device Security Using Cisco IOS AA with TACACS+ and RADIUS
- Configure and Verify First-Hop Redundancy Protocols
COURSE CCP120
Title: Troubleshooting and Maintaining Cisco IP Networks (TSHOOT)
Exam: 300-135

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises will certify that the successful candidate has important knowledge and skills necessary to secure and expand the reach of an enterprise network to (1) plan and perform regular maintenance on complex enterprise routed and switched networks and (2) use technology-based practices and a systematic ITIL-compliant approach to perform network troubleshooting.

Course Objectives
This course will cover the following subjects:

- Use Cisco IOS Troubleshooting Tools
- Apply Troubleshooting methodologies
- Troubleshoot Switch Administration
- Troubleshoot Layer 2 Protocols
- Troubleshoot VLANs
- Troubleshoot Trunking
- Troubleshoot EtherChannels
- Troubleshoot Spanning Tree
- Troubleshoot other LAN Switching Technologies
- Troubleshoot Chassis Virtualization and Aggregation Technologies
- Troubleshoot IPv4 Addressing and Subnetting
- Troubleshoot IPv6 Addressing and Subnetting
- Troubleshoot Static Routing
- Troubleshoot Default Routing
- Troubleshoot Administrative Distance
- Troubleshoot GRE
- Troubleshoot IOS AAA using Local Database
- Troubleshoot Device Access Control
- Troubleshoot Router Security Features
- Troubleshoot Device Management
- Troubleshoot SNMP
- Troubleshoot Logging
- Troubleshoot Network Time Protocol
- Troubleshoot IPv4 and IPv6 DHCP
- Troubleshoot IPv4 Network Address Translation
- Troubleshoot SLA Architecture
- Troubleshoot Tracking Objects
Cisco Certified Security Professional (CCNP Security)

Program Summary
This instructor-led program with a combination of lecture and hands-on laboratory exercises covers advanced topics and concepts related to securing Cisco networks. This course covers a wide array of security topics including: Cisco IOS firewall implementation; PIX firewall technology and features; VPN concepts and implementation; IPsec; implementation and design of intrusion detection systems; Cisco’s SAFE implementation; AAA; protocol monitoring and management and much more. The goal of this course is to give the student the tools and knowledge necessary to secure and manage complex network infrastructures – protecting data and productivity, as well as, reducing costs. These are advanced courses providing the skills and knowledge necessary to pass the Cisco certification exams necessary to become a Cisco Certified Network Professional (CCNP) Security.

- Certification program
- 288 Contact Hours, 18 Credit Hours, 36 Weeks

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Prerequisites
Candidates wishing to enter this course should have completed the Cisco Certified Network Professional program, the Cisco Certified Network Associate program or have commensurate experience in with Cisco routers and network infrastructure implementation.

Type of Document Received Upon Graduation
Upon successful completion of all program requirements, each student will be awarded a Certificate of Completion.

Certification Tests
All certification exams are scored on a pass/fail basis. Depending on the specific exam, a correct response to 75% - 80% of the questions will be required to achieve a passing score. Students are encouraged to take exams immediately following completion of the corresponding course.
Career Development
Students who successfully complete this program will be prepared for midlevel to advanced level professional opportunities in the IT field with emphasis on network security including installation, configuration and maintenance security components supported in a Local Area Network (LAN) and Wide Area Network (WAN) infrastructure. Although titles may vary by hiring organizations, students with these credentials are qualified to meet the requirements of positions such as Network Security Engineer, Network Security Support Specialist, Network Security Administrator, Sr. Network Security Engineer or similar designations.

This program also aligns with the following career opportunities classified by US Department of Labor under the Standard Occupational Classification (SOC) system.

- 15-1122 Information Security Analysts
- 25-1021 Computer Science Teacher, Postsecondary

Recommended Next Course
Candidates wishing to further their education are recommended to consider the CCIE program as the next logical step towards becoming an expert IT professional.
CCSP Program Details

**COURSE CCS100**
Title: Implementing Cisco Network Security (IINS)
Exam: 210-260

**Course Description**
This instructor-led program with a combination of lecture and hands-on laboratory exercises is associated with the CCNA Security certification. This exam tests a candidate's knowledge of securing Cisco routers and switches and their associated networks. It leads to validated skills for installation, troubleshooting and monitoring of network devices to maintain integrity, confidentiality and availability of data and devices and develops competency in the technologies that Cisco uses in its security infrastructure.

**Course Objectives**
This course will cover the following subjects:

- Common Security Principals
- Common Security Treats
- Cryptography Concepts
- Describe Network Topologies
- Secure Management
- AAA Concepts
- 802.1X Authentication
- BYOD
- VPN Concepts
- Remote Access VPN
- Site to Site VPN
- Security on Cisco Routers
- Securing Routing Protocols
- Securing the Control Plane
- Common Layer to Attacks
- Mitigation Procedures
- VLAN security
- Describe Operational Strengths and weaknesses of the Different Firewall Technologies
- Compare Stateful vs. Stateless Firewalls
- Implement NAT on Cisco ASA 9.x
- Implement Zone-Based Firewall
- Firewall Features on the Cisco Adaptive Security Appliance 9.x
- Describe IPS Deployment Considerations
- Describe IPS Technologies
- Describe Mitigation Technology for Email-Based Treats
- Describe Mitigation Technology for Web-Based Treats
- Describe Mitigation Technology for Endpoint Treats
COURSE CCS110
Title: Implementing Cisco Secure Access Solutions (SISAS)
Exam: 300-208

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is one of the exams associated with the CCNP Security certification. This course will cover the components and architecture of secure access, by utilizing 802.1X and Cisco TrustSec. It includes knowledge of Cisco Identity Services Engine (ISE) architecture, solution, and components as an overall network threat mitigation and endpoint control solutions. It also includes the fundamental concepts of bring your own device (BYOD) using posture and profiling services of ISE. Candidates can prepare for this exam by taking the Implementing Cisco Secure Access Solutions (SISAS) course.

Course Objectives
This course will cover the following subjects:

- Implement Device Administration
- Describe Identity Management
- Implement Wired/Wireless 802.1X
- Implement MAB
- Implement network authorization enforcement
- Implement Central Web Authentication
- Implement Profiling
- Implement Guest Services
- Implement Posture Services
- Implement BYOD Access
- Describe TrustSec Architecture
- Troubleshoot Identity Management Solutions
- Design Highly Secure Wireless Solution with ISE
- Device Administration
- Identity Management
- Profiling
- Guest Services
- Posturing Services
- BYOD Access
COURSE CCS120
Title: Implementing Cisco Edge Network Security Solutions (SENSS)
Exam: 300-206

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is one of the exams associated with the CCNP Security. The Implementing Cisco Edge Network Security Course includes the knowledge of a network security engineer to configure and implement security on Cisco network perimeter edge devices such as a Cisco switch, Cisco router, and Cisco ASA firewall. This course focuses on the technologies used to strengthen security of a network perimeter such as Network Address Translation (NAT), ASA policy and application inspect, and a zone-based firewall on Cisco routers.

Course Objectives
This course will cover the following subjects:

- Implement Firewall
- Implement Layer 2 Security
- Configure Device Hardening Per Best Practices
- Implement SSHv2, HTTPS, and SNMPv3 Access on the Network Devices
- Implement RBAC on the ASA/IOS using CLI and ASDM
- Describe Cisco Prime Infrastructure
- Describe Cisco Security Manager
- Implement Device Managers
- Configure NetFlow Exporter on Cisco Routers, Switches, and ASA
- Implement SNMPv3
- Implement Logging on Cisco Routers, Switches, and ASA Using Cisco Best Practices
- Implement NTP with Authentication on Cisco Routers, Switches, and ASA
- Describe CDP, DNS, SCP, SFTP, and DHCP
- Analyze Packet Tracer on the Fire Using CLI/ASDM
- Configure and Analyze Packet Capture Using CLI/ASDM
- Analyze Syslog Events Generated From ASA
- Design a Firewall Solution
- Layer 2 Security Solutions
- Describe Security Operations Management Architectures
- Describe Data Center Security Components and Considerations
- Describe Common IPv6 Security Considerations
**COURSE CCS130**

Title: Implementing Cisco Secure Mobility Solutions (SiMOS)

Exam: 300-209

**Course Description**
This instructor-led program with a combination of lecture and hands-on laboratory exercises is associated with the Implementing Cisco Secure Mobility Solutions (SiMOS) tests a network security engineer on the variety of Virtual Private Network (VPN) solutions that Cisco has available on the Cisco ASA firewall and Cisco IOS software platforms. This course provides the knowledge necessary to properly implement highly secure remote communications through VPN technology, such as remote access SSL VPN and site-to-site VPN (DMVPN, FlexVPN). Candidates can prepare for this exam by taking the Implementing Cisco Secure Mobility Solutions (SiMOS) course.

**Course Objectives**
This course will cover the following subjects:

- Site-to-Site VPNs on Routers and Firewalls
- Describe GETVPN
- Implement IPsec
- Implement DMVPN
- Implement FlexVPN
- Implement Remote Access VPNs
- Implement AnyConnect IKEv2 VPNs on ASA and Routers
- Implement AnyConnect SSLVPN on ASA and Routers
- Implement Clientless SSLVPN on ASA and Routers
- Implement FLEX VPN on Routers
- Troubleshoot VPN Using ASDM & CLI
- Troubleshoot IPsec
- Troubleshoot DMVPN
- Troubleshoot FlexVPN
- Troubleshoot AnyConnect IKEv2 and SSL VPNs on ASA and Routers
- Troubleshoot Clientless SSLVPN on ASA and Routers
- Design Site-to-Site VPN Solutions
- Identify Functional Components of GETVPN, FlexVPN, DMVPN, and IPsec
- VPN Technology Consideration Based on Functional Requirements
- High Availability Consideration
- Identify VPN Technology Based on Configuration Output
- Design Remote Access VPN Solution
- Clientless SSL Browser and Client Considerations / Requirements
- Identify Split Tunneling Requirements
- Describe Encryption, Hashing, and Next generation Encryption (NGE)
- Describe PKI Components Protection Methods
- Compare and Contrast SSL, DTLS, and TLS
COURSE CCS140
Title: Implementing Cisco Threat Control Solutions (SITCS)
Exam: 300-207

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is associated with the Cisco Certified Network Professional Security certification. The Implementing Cisco Threat Control Solutions (SITCS) provides a network security engineer on advanced firewall architecture and configuration with the Cisco next-generation firewall, utilizing access and identity policies. This Course covers integration of Intrusion Prevention System (IPS) and context-aware firewall components, as well as Web (Cloud) and Email Security solutions. Candidates can prepare for this exam by taking the Implementing Cisco Threat Control Solutions (SITCS) course.

Course Objectives
This course will cover the following subjects:

- Cisco ASA 5500-X NGFW Security Services
- Describe Features and Functionality
- Implement Web Usage Control
- Implement AVS
- Cisco Cloud Web Security
- Implement IOS and ASA Connectors
- Implement AnyConnect Web Security Module
- Implement Anti-Malware
- Cisco WSA
- Implement Data Security
- Describe Decryption Policies
- Describe Traffic Redirection and Capture Methods
- Cisco ESA
- Implement email Encryption
- Implement Anti-Spam Policies
- Implement Virus Outbreak Filter
- Network IPS
- Implement Traffic Redirection and Capture Methods
- Implement Network IPS Deployment Modes
- Describe Signatures Engines
- Configure Device Hardening Per Best practices
- Content Security
- Configure IME and IP Logging for IPS
- Content Security
- Monitor Cisco Security IntelliShield
- Design IPS Solution
- Design Web Security Solution
- Design Email Security Solution
- Design Application Security Solution
Linux+ (Linux Certified Professional)

Program Summary
This instructor-led program with a combination of lecture and hands-on laboratory exercises is designed to enhance the competencies of the Linux professional. Students will be introduced to multiple Linux distributions and perform installations of three or more distributions, including Red Hat Linux. Basic operational concepts will be taught and practiced. Students will implement security features provided by the Linux operating system. Upon completion of this course, students will have a solid understanding of the Linux operating system and be able to perform basic troubleshooting tasks. Both workstation and server implementations will be covered. This program will provide students with the skills and knowledge necessary to pass the CompTIA Linux+ certification exam.

- Certification program
- 96 Contact Hours, 6 Credit Hours, 12 Weeks

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Prerequisites
Candidates wishing to enter this course should have completed the Microsoft Certified Technology Specialist (MCTS) program or have commensurate experience with PC operating systems and networking.

Type of Document Received Upon Graduation
Upon successful completion of all program requirements, each student will be awarded a Certificate of Completion.

Certification Tests
All certification exams are scored on a pass/fail basis. Depending on the specific exam, a correct response to 75% - 80% of the questions will be required to achieve a passing score. Students are encouraged to take exams immediately following completion of the corresponding course.

Career Development
Students who successfully complete this program will be prepared for entry to midlevel professional opportunities in the IT field with emphasis on planning, installation, and maintenance of client workstation as well as server operating system, applications and network infrastructure services using the Linux platform and technologies. Although titles may vary by hiring organizations, students with these credentials are qualified to meet the requirements of positions such as Server Support Technician, Server Administrator, Network Administrator, Linux Server Administrator or similar designations.

This program also aligns with the following career opportunities classified by US Department of Labor under the Standard Occupational Classification (SOC) system.

- 15-1150 Computer Support Specialists
**Recommended Next Course**
Candidates wishing to further their education are recommended to consider the Microsoft certifications in client/server technologies or the Cisco Certified Network Associate (CCNA) programs as the next logical step towards becoming a well rounded IT professional.
Linux+ Program Details

COURSE LIN100
Title: Linux+
Exam: CompTIA Exams LX0-101 and LX0-102

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises is designed to teach students multiple Linux distributions and perform installations of three or more distributions, including Red Hat Linux. Basic operational concepts will be taught and practiced. Students will implement security features provided by the Linux operating system. Both workstation and server implementations will be covered.

Course Objectives
This course will cover the following subjects:

- Identify all System Hardware Requirement
- Install Multimedia Options
- Determine what Software & Services should be Installed
- Configure File Systems
- Configure a Boot Manager
- Assign Users, Groups, Passwords, and Permissions Based on Company’s Security Policy
- Manage Local Storage Devices & File systems
- Mount & Unmount Varied file systems
- Create Linked Files Using CLI Commands
- Perform & Verify Backups and Restores
- Access & Write Data to Recordable Media
- Identify, Execute, Manage and Kill Process
- Perform Remote Management
- Configure Client Network Services & Settings
- Configure Basic Server Network Services
- Configure a Network Interface Card form a Command Line
- Configure Linux Printing
- Setup Environment Variables
- Configure Security Environment Files
- Use Appropriate Access Level for Login
- Set Daemon & Process Permissions
- Implement Security Auditing for Files & Authentication
- Establish System Performance Baseline
- Troubleshoot errors Using System Logs
- Access System Documentation & Help Files
- Identify & Configure Mass Storage Devices & RAID
Certified Desktop & Network Specialist (CDNS)

Program Summary
This instructor-led program with a combination of lecture and hands-on laboratory exercises is designed for the novice with no computer experience. Students will be introduced to computer hardware concepts and learn to build a Personal Computer (PC) from the ground up. Software concepts will be delivered via training on the newest versions of Microsoft Windows. Additionally, students will be given training and experience on the DOS operating system – an older operating system providing a venue to study concepts that still hold relevance, even in today’s advanced computing environments. The primary goal of this course is to give students a basic understanding of every aspect of hardware and software relating to the PC. However, the final portion of this course will introduce the student to basic networking concepts and network implementation using Microsoft Windows Operating System – a must for any individual planning to enter the IT field.

This program is also designed to provide students with the knowledge required for entry-level careers in computer networking, with an emphasis on Microsoft operating systems including Windows Vista and Windows Server 2012. Students will be guided through the features of the Microsoft operating systems will learn how implement, manage and maintain both workstations and servers in a Microsoft Windows networking environment. Additional topics include network infrastructure services that are required to support a Windows network including Active Directory, Name Resolution, TCP/IP and IP assignment, Windows Security, Remote Access, and Microsoft Exchange 2010. This program will provide students with the skills and knowledge necessary to complete the CompTIA A+ and Microsoft Certified System Engineer (MCSE) certification exams.

- Certification program
- 576 Contact Hours, 36 Credit Hours, 72 Weeks

TERM 1

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**Prerequisites**
There are no prerequisites required to attend this course.

**Type of Document Received Upon Graduation**
Upon successful completion of all program requirements, each student will be awarded a Certificate of Completion.

**Certification Tests**
All certification exams are scored on a pass/fail basis. Depending on the specific exam, a correct response to 75% - 80% of the questions will be required to achieve a passing score. Students are encouraged to take exams immediately following completion of the corresponding course.

**Career Development**
Students who successfully complete this program will be prepared for entry to midlevel professional opportunities in the IT field with emphasis on planning, installation, and maintenance of client workstation hardware and software as well as server operating system, applications and network infrastructure services using Microsoft technologies. Although titles may vary by hiring organizations, students with these credentials are qualified to meet the requirements of positions such as Desktop and Server Support Technician, Server Administrator, Network Administrator, Windows Server Administrator or similar designations.

This program also aligns with the following career opportunities classified by US Department of Labor under the Standard Occupational Classification (SOC) system.

- 15-1151 Computer User Support Specialist
- 25-1021 Computer Science Teacher, Postsecondary
- 17-2061 Computer Hardware Engineers
- 15-1141 Database Administrators
CDNS Program Details

**COURSE CDN100**

Title: PC Hardware and Operating System  
Exam: CompTIA Exams 220-801 and 220-802

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises is designed to introduce the students to computer hardware concepts and the skills required to build a Personal Computer (PC) from the ground up. In addition, students will learn software concepts with the newest versions of Microsoft Windows. The primary goal of this course is to give students a basic understanding of every aspect of hardware and software relating to the PC. However, the final portion of this course will introduce the student to basic networking concepts and network implementation using Microsoft Windows operating systems.

Course Objectives
This course will cover the following subjects:

- Skills in Managing and Troubleshooting PCs
- Operational Procedures
- Perform Preventive Maintenance
- Diagnostics and Troubleshooting
- Professionalism and Communication
- Safety and Tools
- Personal Computer Components
- System Unit Components
- Personal Computer Connection Methods
- Tools of the Trade
- Display Devices
- Input Devices
- Adapter Cards
- Multimedia Devices
- Storage Devices
- Power Supplies
- Memory
- CPUs
- System Boards
- BIOS
- Personal Computer Operating Systems
- Windows User Interface Components
- Windows File System Management
- Windows System Management Tools
- Install, Upgrade, and Optimize Microsoft Windows
- Operating System Utilities
- Maintain and Troubleshoot Microsoft Windows
- Recover Microsoft Windows
- Command Line Interface
- Network Concepts and Communications
- Network Connectivity
- Wireless Networks
- Create Network Connections
- Internet Technologies
- Virtualization
- Install and Configure Web Browser
- Maintain and Troubleshoot Network Connections
- Laptop and Portable Computing Device Components
- Printer and Scanner Technologies
- Printer and Scanner Components
- Printer and Scanner Processes
- Install and Configure Printers and Scanners
- Maintain and Troubleshoot Printers and Scanners
- Security Fundamentals
- Security Protection Measures
- Data and Physical Security
- Wireless Security
- Social Engineering
- Install and Configure Security Measures
- Maintain and Troubleshoot Security Measures
- Virtualization
Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to install, configure, and maintain Windows Server 2012. This course is intended for Windows Server 2012 Technology Specialists, in Network Infrastructure and Active Directory, who are interested in learning professional level Server Administrator skills to plan, manage, and maintain Windows Server 2012.

Course Objectives
This course will cover the following subjects:

*Deploying and Managing Windows Server 2012*
- Windows Server 2012 Overview
- Installing Windows Server 2012
- Post-Installation Configuration of Windows Server 2012
- Overview of Windows Server 2012 Management
- Introduction to Windows PowerShell

*Introduction to Active Directory Domain Services*
- Overview of AD DS
- Overview of Domain Controllers
- Installing a Domain Controller

*Managing Active Directory Domain Services Objects*
- Managing User Accounts
- Managing Groups
- Managing Computer Accounts
- Delegating Administration
- Delegate permissions to perform AD DS administration.

*Automating Active Directory Domain Services*
- Using Command-line Tools for AD DS Administration
- Using Windows PowerShell for AD DS Administration
- Performing Bulk Operations with Windows PowerShell

*Implementing IPv4*
- Overview of TCP/IP
- Understanding IPv4 Addressing
- Subnetting and Super netting
- Configuring and Troubleshooting IPv4

*Implementing DHCP*
- Overview of the DHCP Server Role
- Configuring DHCP Scopes
- Managing a DHCP Database
- Securing and Monitoring DHCP
Implementing DNS
- Name Resolution for Windows Clients and Servers
- Installing a DNS Server
- Managing DNS Zones

Implementing IPv6
- Overview of IPv6
- IPv6 Addressing
- Coexistence with IPv4
- IPv6 Transition Technologies

Implementing Local Storage
- Overview of Storage
- Managing Disks and Volumes
- Implementing Storage Spaces

Implementing File and Print Services
- Securing Files and Folders
- Protecting Shared Files and Folders by Using Shadow Copies
- Configuring Work Folders
- Configuring Network Printing

Implementing Group Policy
- Overview of Group Policy
- Group Policy Processing
- Implementing a Central Store for Administrative Templates

Securing Windows Servers Using Group Policy Objects
- Security Overview for Windows Operating Systems
- Configuring Security Settings
- Restricting Software
- Configuring Windows Firewall with Advanced Security

Implementing Server Virtualization with Hyper-V
- Overview of Virtualization Technologies
- Implementing Hyper-V
- Managing Virtual Machine Storage
- Managing Virtual Networks
COURSE CDN120
Title: Administering Windows Server 2012
Exam: Microsoft Exam 70-411

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to administer and troubleshoot a Windows Sever 2012 network infrastructure. Students will learn to implement and configure secure network access and implement fault tolerant storage technologies. Students will gain an understanding of the network technologies most commonly used with Windows Server 2012 and IP-enabled networks. Students will also learn how to secure servers and maintain update compliance.

Course Objectives
This course will cover the following subjects:

Configuring and Troubleshooting Domain Name System
- Configuring the DNS Server Role
- Configuring DNS Zones
- Configuring DNS Zone Transfers
- Managing and Troubleshooting DNS

Maintaining Active Directory Domain Services
- Overview of AD DS
- Implementing Virtualized Domain Controllers
- Implementing RODCs
- Administering AD DS
- Managing the AD DS Database

Managing User and Service Accounts
- Configuring Password Policy and User Account Lockout Settings
- Configuring Managed Service Accounts

Implementing a Group Policy Infrastructure
- Introducing Group Policy
- Implementing and Administering GPOs
- Group Policy Scope and Group Policy Processing
- Troubleshooting the Application of GPOs

Managing User Desktops with Group Policy
- Implementing Administrative Templates
- Configuring Folder Redirection and Scripts
- Configuring Group Policy Preferences
- Managing Software with Group Policy

Installing, Configuring, and Troubleshooting the Network Policy Server Role
- Installing and Configuring a Network Policy Server
- Configuring RADIUS Clients and Servers
- NPS Authentication Methods
- Monitoring and Troubleshooting a Network Policy Server
Implementing Network Access Protection
- Overview of Network Access Protection
- Overview of NAP Enforcement Processes
- Configuring NAP
- Configuring IPSec Enforcement for NAP
- Monitoring and Troubleshooting NAP

Implementing Remote Access
- Overview of Remote Access
- Implementing DirectAccess by Using the Getting Started Wizard
- Implementing and Managing an Advanced DirectAccess Infrastructure
- Implementing VPN
- Implementing Web Application Proxy

Optimizing File Services
- Overview of FSRM
- Using FSRM to Manage Quotas, File Screens, and Storage Reports
- Implementing Classification and File Management Tasks
- Overview of DFS
- Configuring DFS Namespaces
- Configuring and Troubleshooting DFS Replication

Configuring Encryption and Advanced Auditing
- Encrypting Drives by Using BitLocker
- Encrypting Files by Using EFS
- Configuring Advanced Auditing

Deploying and Maintaining Server Images
- Overview of Windows Deployment Services
- Managing Images
- Implementing Deployment with Windows Deployment Services
- Administering Windows Deployment Services

Implementing Update Management
- Overview of WSUS
- Deploying Updates with WSUS

Monitoring Windows Server 2012
- Monitoring Tools
- Using Performance Monitor
- Monitoring Event Logs
COURSE CDN130
Title: Configuring advanced Windows Server 2012 Services
Exam: Microsoft Exam 70-412

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience implementing, managing and maintaining a Windows Server 2012 or Windows Server 2012 R2 environment who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Implementing Advanced Network Services
- Configuring Advanced DHCP Features
- Configuring Advanced DNS Settings
- Implementing IPAM
- Managing IP Address Spaces with IPAM

Implementing Advanced File Services
- Configuring iSCSI Storage
- Configuring BranchCache
- Optimizing Storage Usage

Implementing Dynamic Access Control
- Overview of DAC
- Implementing DAC Components
- Implementing DAC for Access Control
- Implementing Access Denied Assistance
- Implementing and Managing Work Folders

Implementing Distributed Active Directory Domain Services Deployments
- Overview of Distributed AD DS Deployments
- Deploying a Distributed AD DS Environment
- Configuring AD DS Trusts

Implementing Active Directory Domain Services Sites and Replication
- AD DS Replication Overview
- Configuring AD DS Sites
- Configuring and Monitoring AD DS Replication

Implementing AD CS
- Using Certificates in a Business Environment
- PKI Overview
- Deploying CAs
- Deploying and Managing Certificate Templates
- Implementing Certificate Distribution and Revocation
- Managing Certificate Recovery
Implementing Active Directory Rights Management Services
- AD RMS Overview
- Deploying and Managing an AD RMS Infrastructure
- Configuring AD RMS Content Protection
- Configuring External Access to AD RMS

Implementing and Administering AD FS
- Overview of AD FS
- Deploying AD FS
- Implementing AD FS for a Single Organization
- Deploying AD FS in a Business-to-Business Federation Scenario
- Extending AD FS to External Clients

Implementing Network Load Balancing
- Overview of NLB
- Configuring an NLB Cluster
- Planning an NLB Implementation

Implementing Failover Clustering
- Overview of Failover Clustering
- Implementing a Failover Cluster
- Configuring Highly Available Applications and Services on a Failover Cluster
- Maintaining a Failover Cluster
- Implementing a Multi-Site Failover Cluster

Implementing Failover Clustering with Hyper-V
- Overview of Integrating Hyper-V with Failover Clustering
- Implementing Hyper-V Virtual Machines on Failover Clusters
- Implementing Hyper-V Virtual Machine Movement

Implementing Business Continuity and Disaster Recovery
- Data Protection Overview
- Implementing Windows Server Backup
- Implementing Server and Data Recovery
COURSE CDN140
Title: Installing and Configuring Windows 10
Exam: Microsoft Exam 70-697

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides Students with the knowledge and skills required to install and configure Windows 10 desktops and devices in a Windows Server domain corporate environment. These skills include learning how to install and customize Windows 10 operating systems and apps, and configure local and remote network connectivity and storage. Students will also learn how to configure data security, device security, and network security, and maintain, update, and recover Windows 10.

Course Objectives
This course will cover the following subjects:

Overview of Windows 10
- Introducing Windows 10
- Navigating the User Interface

Installing Windows 10
- Installing Windows 10
- Upgrading to Windows 10

Configuring your Device
- Overview of Tools You Can Use to Configure Windows 10
- Common Configuration Options
- Managing User Accounts
- Using OneDrive

Configuring Network Connectivity
- Configuring IP Network Connectivity
- Implementing Name Resolution
- Implementing Wireless Network Connectivity
- Overview of Remote Access

Managing Storage
- Overview of Storage Options
- Managing Disks, Partitions, and Volumes
- Maintaining Disks and Volumes
- Managing Storage Spaces

Managing Files and Printers
- Overview of File Systems
- Configuring and Managing File Access
- Configuring and Managing Shared Folders
- Work Folders
- Managing Printers
Managing Apps in Windows 10
- Overview of Providing Apps to Users
- The Windows Store
- Web Browsers

Managing Data Security
- Overview of Data-Related Security Threats
- Security Data with EFS
- Implementing and Managing BitLocker

Managing Device Security
- Using Security Settings to Migrate Threats
- Configuring UAC
- Configuring Application Restriction

Managing Network Security
- Overview of Network-Related Security Threats
- Windows Firewall
- Connection Security Rules
- Windows Defender

Troubleshooting and recovery
- Managing Devices and Drives
- Recovering Files
- Recovering Devices

Maintaining Windows 10
- Updating Windows
- Monitoring Windows 10
- Optimizing Performance
COURSE CDN150
Title: Designing and Implementing a Server Infrastructure
Exam: Microsoft Exam 70-413

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Planning Server Upgrade and Migration
- Consideration for Upgrades and Migrations
- Creating a Server Upgrade and Migration Plan
- Planning for Virtualization

Planning and Implementing a Server Deployment Strategy
- Selecting an Appropriate Server deployment Strategy
- Implementing an Automated Deployment Strategy

Planning and Deploying Servers Using Virtual Machine Manager
- System Center 2012 R2 Virtual Machine Manager Overview
- Implementing a Virtual Machine Manager Library and Profiles
- Planning and Deploying Virtual Machine Manager Services

Designing and Maintaining an IP Configuration and Address Management Solution
- Designing DHCP Servers
- Planning DHCP Scopes
- Designing an IPAM Provisioning Strategy
- Managing Servers and Address Spaces by Using IPAM

Designing and Implementing Name Resolution
- Designing DNS Server Implementation Strategy
- Designing the DNS Namespace
- Designing DNS Zones
- Designing DNS Zone Replication and Delegation

Designing and Implementing an Active Directory Domain Services Forest and Domain Infrastructure
- Designing an Active Directory Forest
- Designing and Implementing Active Directory Forest Trusts
- Designing Active Directory Integration with Windows Azure Active Directory
- Designing and Implementing Active Directory Domains

Designing and Implementing an AD DS Organizational Unit Infrastructure
- Planning the Active Directory Administrative Tasks Delegation Model
- Designing an OU Structure
- Designing and Implementing an AD DS Group Strategy
Designing and Implementing a Group Policy Object Strategy
- Collecting the information Required for a GPO Design
- Designing and Implementing GPOs
- Designing GPO Processing
- Planning Group Policy Management

Designing and Implementing an AD DS Physical Topology
- Designing and Implementing Active Directory Sites
- Designing Active Directory Replication
- Designing the placement of Domain Controllers
- Designing Highly Available Domain Controllers

Planning and Implementing Storage and File Services
- Planning and Implementing iSCSI SANs
- Planning and Implementing Storage Spaces
- Optimizing File Services for Branch Offices

Designing and Implementing Network Protection
- Overview of Network Security Design
- Designing and Implementing a Windows Firewall Strategy
- Designing and Implementing a NAP Infrastructure

Designing and Implementing Remote Access Services
- Planning and Implementing DirectAccess
- Planning and Implementing VPN
- Planning and Implementing Web Application Proxy
- Planning a Complex Remote Access Infrastructure
COURSE CDN160
Title: Implementing an Advanced Server Infrastructure
Exam: Microsoft Exam 70-414

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Advanced Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Overview of Management in an Enterprise Data Center
- Overview of the Enterprise Data Center
- Overview of the Microsoft System Center 2012 R2 Components

Planning and Implementing a Server Virtualization Strategy
- Planning a VMM Deployment
- Planning and Implementing a Server Virtualization Host Environment

Planning and Implementing Networks and Storage for Virtualization
- Planning a Storage Infrastructure for Virtualization
- Implementing a Storage Infrastructure for Virtualization
- Planning and Implementing Network Infrastructure for Virtualization
- Planning and Implementing Network Virtualization

Planning and Deploying Virtual Machines
- Planning a Virtual Machine Configuration
- Preparing for Virtual Machine Deployments with VMM
- Deploying Virtual Machines
- Planning and Implementing Hyper-V Replica

Planning and Implementing a Virtualization Administration Solution
- Planning and Implementing Automation with System Center 2012
- Planning and Implementing System Center 2012 Administration
- Planning and Implementing Self-Service Options in System Center 2012
- Planning and Implementing Updates in a Server Virtualization Infrastructure

Planning and Implementing a Server Monitoring Strategy
- Planning Monitoring in Windows Server 2012
- Overview of Operations Manager
- Planning and Configuring Monitoring Components
- Configuring Integration with VMM

Planning and Implementing High Availability for Files Services and Applications
- Planning and Implementing Storage Spaces
- Planning and Implementing a DFS
- Planning and Implementing a NLB
**Planning and Implementing a High Availability Infrastructure Using Failover Clustering**
- Planning an Infrastructure for Failover Clustering
- Implementing Failover Clustering
- Planning and Implementing Updates for Failover Clusters
- Integrating Failover Clustering with Server Virtualization
- Planning a Multisite Failover Cluster

**Planning and Implementing a Business Continuity Strategy**
- Overview of Business Continuity Planning
- Planning and Implementing Backup Strategies
- Planning and Implementing Recovery
- Planning and Implementing Backup and Recovery of Virtual Machines

**Planning and Implementing an Public Key Infrastructure**
- Planning and Implementing Deployment of a Certification Authority
- Planning and Implementing Certificate Templates
- Planning and Implementing Certificate Distribution and Revocation
- Planning and Implementing Key Archival and Recovery

**Planning and Implementing an Identity Federation Infrastructure**
- Planning and Implementing an FS Server Infrastructure
- Planning and Implementing AD FS Claim Providers and Relying Parties
- Planning and Implementing AD FS Claims and Claim Rules
- Planning and Implementing Web Application Proxy

**Planning and Implementing Data Access for Users and Devices**
- Planning and Implementing DAC
- Planning Workplace Join
- Planning Work Folders

**Planning and Implementing an Information Rights Management Infrastructure**
- AD RMS Overview
- Planning and Implementing an AD RMS Cluster
- Planning and Implementing AD RMS Templates and Policies
- Planning and Implementing External Access to AD RMS Services
- Planning and Implementing AD RMS Integration with Dynamic Access Control
COURSE CDN170
Title: Core Solutions of Microsoft Exchange Server 2013
Exam: Microsoft Exam 70-341

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides Students with the knowledge and skills to plan, deploy, manage, secure, and support Microsoft® Exchange Server 2013. This course will teach Audience how to configure Exchange Server 2013 and supply them with the information they will need to monitor, maintain, and troubleshoot Exchange Server 2013. This course will also provide guidelines, best practices, and considerations that will help students optimize performance and minimize errors and security threats in Exchange Server 2013 to teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Advanced Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Deploying and Managing Microsoft Exchange Server 2013
- Exchange Server 203 Prerequisites and Requirements
- Exchange Server 2013 Deployment
- Managing Exchange Server 2013

Planning and Configuring Mailbox Servers
- Overview of the Mailbox Server
- Planning the Mailbox Server Deployment
- Configuring the Mailbox Servers

Managing Recipient Objects
- Managing Exchange Server 2013 Mailboxes
- Managing Other Exchange Recipients
- Planning and Implementing Public Folder Mailboxes
- Managing Address Lists and Policies

Planning and Deploying Client Access Servers
- Planning Client Access Server Deployment
- Configuring the Client Access Server Role
- Managing Client Access Services

Planning and Configuring Messaging Client Connectivity
- Client Connectivity to the Client Access Server
- Configuring Outlook Web App
- Planning and Configuring Mobile Messaging
- Configuring Secure Internet Access for Client Access Server

Planning and Implementing High Availability
- High Availability on Exchange Server 2013
- Configuring Highly Available Mailbox Databases
- Configuring Highly Available Client Access Server
Planning and Implementing Disaster Recovery
- Planning for Disaster Mitigation
- Planning and Implementing Exchange Server 2013 Backup
- Planning and Implementing Exchange Server 2013 Recovery

Planning and Configuring Message Transport
- Overview of Message Transport and Routing
- Planning and Configuring Message Transport
- Managing Transport Rules

Planning and Configuring Message Hygiene
- Planning Messaging Security
- Implementing an Antivirus Solution for Exchange Server 2013
- Implementing and Anti-Spam Solution for Exchange Server 2013

Planning and Configuring Administrative Security and Auditing
- Configuring Role-Based Access Control
- Configuring Audit Logging

Monitoring and Troubleshooting Microsoft Exchange Server 2013
- Monitoring Exchange Server 2013
- Maintaining Exchange Server 2013
- Troubleshooting Exchange Server 2013
COURSE CDN180
Title: Advanced Solutions of Microsoft Exchange Server 2013
Exam: Microsoft Exam 70-342

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides
Students with the knowledge and skills to configure and manage a Microsoft Exchange Server 2013
messaging environment. This course will teach students how to configure Exchange Server 2013, and it
will provide guidelines, best practices, and considerations that will help them optimize your Exchange
Server deployment.

Course Objectives
This course will cover the following subjects:

Overview of Exchange Server 2013 Unified Messaging
▪ Telephony Technologies Overview
▪ Unified Messaging in Exchange Server 2013
▪ Unified Messaging Components

Designing and Implementing Exchange Server 2013 Unified Messaging
▪ Designing a Unified Messaging Deployment
▪ Deploying and Configuring Unified Messaging Components
▪ Integrating Exchange Server 2013 Unified Messaging with Lync

Designing and Implementing Site Resiliency
▪ Site Resiliency in Exchange 2013
▪ Planning Site Resilient Implementation
▪ Implementing Site Resiliency

Planning Virtualization for Exchange Server 2013
▪ Hyper-V 3.0 Overview
▪ Virtualizing Exchange Server 2013 Server Roles

Designing and Implementing Message Transport Security
▪ Overview of Policy and Compliance Requirements
▪ Designing and Implementing Transport Compliance
▪ Designing and Implementing AD RMS Integration with Exchange Server 2013

Designing and Implementing Message retention
▪ Message Records Management and Archiving Overview
▪ Designing In-Place Archiving
▪ Designing and Implementing Message Retention

Designing and Implementing Messaging Compliance
▪ Designing and Implementing Data Loss Prevention
▪ Designing and Implementing an In-Place Hold
▪ Designing and Implementing In-Place E-Discovery

Designing and Implementing Administrative Security and Auditing
▪ Designing and Implementing Role Based Access Control
▪ Designing and Implementing Split Permissions
- Planning and Implementing Audit Logging

Managing Exchange Server 2013 with Exchange Management Shell
- Overview of Windows PowerShell 3.0
- Using Exchange Management Shell to Manage Exchange Server Recipients
- Managing Exchange Server 2013 with Exchange Management Shell

Designing and Implementing Integration with Exchange Online
- Planning for Exchange Online
- Planning and Implementing the Migration to Exchange Online
- Planning Coexistence with Exchange Online

Designing and Implementing Messaging Coexistence
- Designing and Implementing Federation
- Designing Coexistence Between Exchange Organizations
- Designing and Implementing Cross-Forest Mailbox Moves

Designing and Implementing Exchange Server Migrations and Upgrades
- Designing Migration From Non-Exchange Email Systems
- Planning the Upgrade From Previous Exchange Versions
- Implementing the Migration from Previous Exchange Versions
COURSE CDN190
Title: Managing Office 365 Identities and Services
Exam: Microsoft Exam 70-346 & 70-347

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills required to meet the needs of IT professionals who take part in evaluating, planning, deploying, and operating Office 365 services, including its identities, dependencies, requirements, and supporting technologies. This course focuses on skills required to set up an Office 365 tenant, including federation with existing user identities, and skills required to sustain an Office 365 tenant and users.

Course Objectives
This course will cover the following subjects:

Preparing for Office 365
- Introduction to Office 365
- Provisioning the Tenant Accounts
- Planning a Pilot
- Enabling Client Connectivity

Managing Users, Groups, and Licenses
- Manage Users and Licenses by Using the Administration Center
- Managing Security and Distribution Groups
- Manage Cloud Identities with Windows PowerShell

Administering Office 365
- Manage Administrator Roles in Office 365
- Configure Password Management
- Administer Rights Management

Planning and Managing Clients
- Plan for Office Clients
- Manage User-Driven Client Deployments
- Manage IT Deployments of Office 365 ProPlus
- Office Telemetry and Reporting

Planning DNS and Exchange Migration
- Add and Configure Custom Domains
- Recommend a Mailbox Migration Strategy

Planning Exchange Online and Configuring DNS Records
- Plan for Exchange Online
- Continue DNS Records for Services

Administering Exchange Online
- Configure Personal Archive Policies
- Manage Anti-Malware and Anti-Spam Polices
- Configure Additional Email Addresses for Users
- Create and Manage External Contacts, Resources, and Groups
Configuring SharePoint Online
- Manage SharePoint Site Collections
- Configure External User Sharing
- Plan a Collaboration Solution

Configuring Lync Online
- Plan for Lync Online
- Configure Lync Online Settings

Implementing Directory Synchronization
- Prepare On-Premises Active Directory for DirSync
- Set up DirSync
- Manage Active Directory Users and Groups with DirSync In Place

Implementing Active Directory Federation Services
- Planning for AD FS
- Install and Manage AD FS Servers
- Install and Manage AD FS Proxy Servers

Monitoring Office 365
- Isolate Service Interruption
- Monitor Service Health
- Analyze Reports
Certified LAN & WAN Specialist (CLWS)

Program Summary
This instructor-led program with a combination of lecture and hands-on laboratory exercises is designed to provide students with the knowledge required for entry-level careers in computer networking, with an emphasis on Microsoft operating systems including Windows Vista and Windows Server 2012. Students will be guided through the features of the Microsoft operating systems will learn how implement, manage and maintain both workstations and servers in a Microsoft Windows networking environment. Additional topics include network infrastructure services that are required to support a Windows network including Active Directory, Name Resolution, TCP/IP and IP assignment, Windows Security, Remote Access, and Microsoft Exchange 2012.

This program also covers basic networking concepts implemented on Cisco routers. Students will be introduced to the Cisco Internetworking Operating System (IOS) and its command structure. TCP/IP addressing and implementation, including subnetting, will be covered thoroughly. Wide Area Networking (WAN) implementations including ISDN, frame relay, and serial point-to-point (including T1), will be emphasized.

This program will provide students with the skills and knowledge necessary to complete the Microsoft Certified System Engineer (MCSE) and Cisco Certified Network Associate (CCNA) certification exams.

- Certification program
- 576 Contact Hours, 36 Credit Hours, 72 Weeks

TERM 1

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Prerequisites
Candidates wishing to enter this course should have completed the A+ PC Hardware Technician coursework or have commensurate experience with PC hardware and basic operating system concepts.

Type of Document Received Upon Graduation
Upon successful completion of all program requirements, each student will be awarded a Certificate of Completion.

Certification Tests
All certification exams are scored on a pass/fail basis. Depending on the specific exam, a correct response to 75% - 80% of the questions will be required to achieve a passing score. Students are encouraged to take exams immediately following completion of the corresponding course.

Career Development
Students who successfully complete this program will be prepared for midlevel professional opportunities in the IT field with emphasis on planning, installation, configuration and maintenance of client workstation and server operating system, applications and network infrastructure services using Microsoft technologies as well as internetworking components to support a Local Area Network (LAN) infrastructure. Although titles may vary by hiring organizations, students with these credentials are qualified to meet the requirements of positions such as Network Engineer, Network Support Specialist, Local Area Network Engineer, Network Systems Engineer, Server Administrator, Network Administrator, Windows Server Administrator or similar designations.

This program also aligns with the following career opportunities classified by US Department of Labor under the Standard Occupational Classification (SOC) system.

- 15-1151 Computer User Support Specialist
- 15-1142 Network and Computer Systems Administrators
- 25-1021 Computer Science Teacher, Postsecondary
CLWS Program Details

COURSE CLW100
Title: Installing and configuring Windows Server 2012
Exam: Microsoft Exam 70-410

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to install, configure, and maintain Windows Server 2012. This course is intended for Windows Server 2012 Technology Specialists, in Network Infrastructure and Active Directory, who are interested in learning professional level Server Administrator skills to plan, manage, and maintain Windows Server 2012.

Course Objectives
This course will cover the following subjects:

Deploying and Managing Windows Server 2012
- Windows Server 2012 Overview
- Installing Windows Server 2012
- Post-Installation Configuration of Windows Server 2012
- Overview of Windows Server 2012 Management
- Introduction to Windows PowerShell

Introduction to Active Directory Domain Services
- Overview of AD DS
- Overview of Domain Controllers
- Installing a Domain Controller

Managing Active Directory Domain Services Objects
- Managing User Accounts
- Managing Groups
- Managing Computer Accounts
- Delegating Administration
- Delegate permissions to perform AD DS administration.

Automating Active Directory Domain Services
- Using Command-line Tools for AD DS Administration
- Using Windows PowerShell for AD DS Administration
- Performing Bulk Operations with Windows PowerShell

Implementing IPv4
- Overview of TCP/IP
- Understanding IPv4 Addressing
- Subnetting and Supernetting
- Configuring and Troubleshooting IPv4

Implementing DHCP
- Overview of the DHCP Server Role
- Configuring DHCP Scopes
- Managing a DHCP Database
- Securing and Monitoring DHCP
**Implementing DNS**
- Name Resolution for Windows Clients and Servers
- Installing a DNS Server
- Managing DNS Zones

**Implementing IPv6**
- Overview of IPv6
- IPv6 Addressing
- Coexistence with IPv4
- IPv6 Transition Technologies

**Implementing Local Storage**
- Overview of Storage
- Managing Disks and Volumes
- Implementing Storage Spaces

**Implementing File and Print Services**
- Securing Files and Folders
- Protecting Shared Files and Folders by Using Shadow Copies
- Configuring Work Folders
- Configuring Network Printing

**Implementing Group Policy**
- Overview of Group Policy
- Group Policy Processing
- Implementing a Central Store for Administrative Templates

**Securing Windows Servers Using Group Policy Objects**
- Security Overview for Windows Operating Systems
- Configuring Security Settings
- Restricting Software
- Configuring Windows Firewall with Advanced Security

**Implementing Server Virtualization with Hyper-V**
- Overview of Virtualization Technologies
- Implementing Hyper-V
- Managing Virtual Machine Storage
- Managing Virtual Networks
COURSE CLW110
Title: Administering Windows Server 2012
Exam: Microsoft Exam 70-411

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to administer and troubleshoot a Windows Server 2012 network infrastructure. Students will learn to implement and configure secure network access and implement fault tolerant storage technologies. Students will gain an understanding of the network technologies most commonly used with Windows Server 2012 and IP-enabled networks. Students will also learn how to secure servers and maintain update compliance.

Course Objectives
This course will cover the following subjects:

Configuring and Troubleshooting Domain Name System
- Configuring the DNS Server Role
- Configuring DNS Zones
- Configuring DNS Zone Transfers
- Managing and Troubleshooting DNS

Maintaining Active Directory Domain Services
- Overview of AD DS
- Implementing Virtualized Domain Controllers
- Implementing RODCs
- Administering AD DS
- Managing the AD DS Database

Managing User and Service Accounts
- Configuring Password Policy and User Account Lockout Settings
- Configuring Managed Service Accounts

Implementing a Group Policy Infrastructure
- Introducing Group Policy
- Implementing and Administering GPOs
- Group Policy Scope and Group Policy Processing
- Troubleshooting the Application of GPOs

Managing User Desktops with Group Policy
- Implementing Administrative Templates
- Configuring Folder Redirection and Scripts
- Configuring Group Policy Preferences
- Managing Software with Group Policy

Installing, Configuring, and Troubleshooting the Network Policy Server Role
- Installing and Configuring a Network Policy Server
- Configuring RADIUS Clients and Servers
- NPS Authentication Methods
- Monitoring and Troubleshooting a Network Policy Server
Implementing Network Access Protection
- Overview of Network Access Protection
- Overview of NAP Enforcement Processes
- Configuring NAP
- Configuring IPSec Enforcement for NAP
- Monitoring and Troubleshooting NAP

Implementing Remote Access
- Overview of Remote Access
- Implementing DirectAccess by Using the Getting Started Wizard
- Implementing and Managing an Advanced DirectAccess Infrastructure
- Implementing VPN
- Implementing Web Application Proxy

Optimizing File Services
- Overview of FSRM
- Using FSRM to Manage Quotas, File Screens, and Storage Reports
- Implementing Classification and File Management Tasks
- Overview of DFS
- Configuring DFS Namespaces
- Configuring and Troubleshooting DFS Replication

Configuring Encryption and Advanced Auditing
- Encrypting Drives by Using BitLocker
- Encrypting Files by Using EFS
- Configuring Advanced Auditing

Deploying and Maintaining Server Images
- Overview of Windows Deployment Services
- Managing Images
- Implementing Deployment with Windows Deployment Services
- Administering Windows Deployment Services

Implementing Update Management
- Overview of WSUS
- Deploying Updates with WSUS

Monitoring Windows Server 2012
- Monitoring Tools
- Using Performance Monitor
- Monitoring Event Logs
COURSE CLW120
Title: Configuring advanced Windows Server 2012 Services
Exam: Microsoft Exam 70-412

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience implementing, managing and maintaining a Windows Server 2012 or Windows Server 2012 R2 environment who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Implementing Advanced Network Services
- Configuring Advanced DHCP Features
- Configuring Advanced DNS Settings
- Implementing IPAM
- Managing IP Address Spaces with IPAM

Implementing Advanced File Services
- Configuring iSCSI Storage
- Configuring BranchCache
- Optimizing Storage Usage

Implementing Dynamic Access Control
- Overview of DAC
- Implementing DAC Components
- Implementing DAC for Access Control
- Implementing Access Denied Assistance
- Implementing and Managing Work Folders

Implementing Distributed Active Directory Domain Services Deployments
- Overview of Distributed AD DS Deployments
- Deploying a Distributed AD DS Environment
- Configuring AD DS Trusts

Implementing Active Directory Domain Services Sites and Replication
- AD DS Replication Overview
- Configuring AD DS Sites
- Configuring and Monitoring AD DS Replication

Implementing AD CS
- Using Certificates in a Business Environment
- PKI Overview
- Deploying CAs
- Deploying and Managing Certificate Templates
- Implementing Certificate Distribution and Revocation
- Managing Certificate Recovery


*Implementing Active Directory Rights Management Services*

- AD RMS Overview
- Deploying and Managing an AD RMS Infrastructure
- Configuring AD RMS Content Protection
- Configuring External Access to AD RMS

*Implementing and Administering AD FS*

- Overview of AD FS
- Deploying AD FS
- Implementing AD FS for a Single Organization
- Deploying AD FS in a Business-to-Business Federation Scenario
- Extending AD FS to External Clients

*Implementing Network Load Balancing*

- Overview of NLB
- Configuring an NLB Cluster
- Planning an NLB Implementation

*Implementing Failover Clustering*

- Overview of Failover Clustering
- Implementing a Failover Cluster
- Configuring Highly Available Applications and Services on a Failover Cluster
- Maintaining a Failover Cluster
- Implementing a Multi-Site Failover Cluster

*Implementing Failover Clustering with Hyper-V*

- Overview of Integrating Hyper-V with Failover Clustering
- Implementing Hyper-V Virtual Machines on Failover Clusters
- Implementing Hyper-V Virtual Machine Movement

*Implementing Business Continuity and Disaster Recovery*

- Data Protection Overview
- Implementing Windows Server Backup
- Implementing Server and Data Recovery
COURSE CLW130
Title: Installing and Configuring Windows 10
Exam: Microsoft Exam 70-697

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides Students with the knowledge and skills required to install and configure Windows 10 desktops and devices in a Windows Server domain corporate environment. These skills include learning how to install and customize Windows 10 operating systems and apps, and configure local and remote network connectivity and storage. Students will also learn how to configure data security, device security, and network security, and maintain, update, and recover Windows 10.

Course Objectives
This course will cover the following subjects:

Overview of Windows 10
- Introducing Windows 10
- Navigating the User Interface

Installing Windows 10
- Installing Windows 10
- Upgrading to Windows 10

Configuring your Device
- Overview of Tools You Can Use to Configure Windows 10
- Common Configuration Options
- Managing User Accounts
- Using OneDrive

Configuring Network Connectivity
- Configuring IP Network Connectivity
- Implementing Name Resolution
- Implementing Wireless Network Connectivity
- Overview of Remote Access

Managing Storage
- Overview of Storage Options
- Managing Disks, Partitions, and Volumes
- Maintaining Disks and Volumes
- Managing Storage Spaces

Managing Files and Printers
- Overview of File Systems
- Configuring and Managing File Access
- Configuring and Managing Shared Folders
- Work Folders
- Managing Printers
Managing Apps in Windows 10
- Overview of Providing Apps to Users
- The Windows Store
- Web Browsers

Managing Data Security
- Overview of Data-Related Security Threats
- Security Data with EFS
- Implementing and Managing BitLocker

Managing Device Security
- Using Security Settings to Migrate Threats
- Configuring UAC
- Configuring Application Restriction

Managing Network Security
- Overview of Network-Related Security Threats
- Windows Firewall
- Connection Security Rules
- Windows Defender

Troubleshooting and recovery
- Managing Devices and Drives
- Recovering Files
- Recovering Devices

Maintaining Windows 10
- Updating Windows
- Monitoring Windows 10
- Optimizing Performance
COURSE CLW140
Title: Designing and Implementing a Server Infrastructure
Exam: Microsoft Exam 70-413

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Planning Server Upgrade and Migration
- Consideration for Upgrades and Migrations
- Creating a Server Upgrade and Migration Plan
- Planning for Virtualization

Planning and Implementing a Server Deployment Strategy
- Selecting an Appropriate Server deployment Strategy
- Implementing an Automated Deployment Strategy

Planning and Deploying Servers Using Virtual Machine Manager
- System Center 2012 R2 Virtual Machine Manager Overview
- Implementing a Virtual Machine Manager Library and Profiles
- Planning and Deploying Virtual Machine Manager Services

Designing and Maintaining an IP Configuration and Address Management Solution
- Designing DHCP Servers
- Planning DHCP Scopes
- Designing an IPAM Provisioning Strategy
- Managing Servers and Address Spaces by Using IPAM

Designing and Implementing Name Resolution
- Designing DNS Server Implementation Strategy
- Designing the DNS Namespaces
- Designing DNS Zones
- Designing DNS Zone Replication and Delegation

Designing and Implementing an Active Directory Domain Services Forest and Domain Infrastructure
- Designing an Active Directory Forest
- Designing and Implementing Active Directory Forest Trusts
- Designing Active Directory Integration with Windows Azure Active Directory
- Designing and Implementing Active Directory Domains

Designing and Implementing an AD DS Organizational Unit Infrastructure
- Planning the Active Directory Administrative Tasks Delegation Model
- Designing an OU Structure
- Designing and Implementing an AD DS Group Strategy
Designing and Implementing a Group Policy Object Strategy
- Collecting the information Required for a GPO Design
- Designing and Implementing GPOs
- Designing GPO Processing
- Planning Group Policy Management

Designing and Implementing an AD DS Physical Topology
- Designing and Implementing Active Directory Sites
- Designing Active Directory Replication
- Designing the placement of Domain Controllers
- Designing Highly Available Domain Controllers

Planning and Implementing Storage and File Services
- Planning and Implementing iSCSI SANs
- Planning and Implementing Storage Spaces
- Optimizing File Services for Branch Offices

Designing and Implementing Network Protection
- Overview of Network Security Design
- Designing and Implementing a Windows Firewall Strategy
- Designing and Implementing a NAP Infrastructure

Designing and Implementing Remote Access Services
- Planning and Implementing DirectAccess
- Planning and Implementing VPN
- Planning and Implementing Web Application Proxy
- Planning a Complex Remote Access Infrastructure
COURSE CLW150
Title: Implementing an Advanced Server Infrastructure
Exam: Microsoft Exam 70-414

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Advanced Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Overview of Management in an Enterprise Data Center
- Overview of the Enterprise Data Center
- Overview of the Microsoft System Center 2012 R2 Components

Planning and Implementing a Server Virtualization Strategy
- Planning a VMM Deployment
- Planning and Implementing a Server Virtualization Host Environment

Planning and Implementing Networks and Storage for Virtualization
- Planning a Storage Infrastructure for Virtualization
- Implementing a Storage Infrastructure for Virtualization
- Planning and Implementing Network Infrastructure for Virtualization
- Planning and Implementing Network Virtualization

Planning and Deploying Virtual Machines
- Planning a Virtual Machine Configuration
- Preparing for Virtual Machine Deployments with VMM
- Deploying Virtual Machines
- Planning and Implementing Hyper-V Replica

Planning and Implementing a Virtualization Administration Solution
- Planning and Implementing Automation with System Center 2012
- Planning and Implementing System Center 2012 Administration
- Planning and Implementing Self-Service Options in System Center 2012
- Planning and Implementing Updates in a Server Virtualization Infrastructure

Planning and Implementing a Server Monitoring Strategy
- Planning Monitoring in Windows Server 2012
- Overview of Operations Manager
- Planning and Configuring Monitoring Components
- Configuring Integration with VMM

Planning and Implementing High Availability for Files Services and Applications
- Planning and Implementing Storage Spaces
- Planning and Implementing a DFS
- Planning and Implementing a NLB
Planning and Implementing a High Availability Infrastructure Using Failover Clustering
- Planning an Infrastructure for Failover Clustering
- Implementing Failover Clustering
- Planning and Implementing Updates for Failover Clusters
- Integrating Failover Clustering with Server Virtualization
- Planning a Multisite Failover Cluster

Planning and Implementing a Business Continuity Strategy
- Overview of Business Continuity Planning
- Planning and Implementing Backup Strategies
- Planning and Implementing Recovery
- Planning and Implementing Backup and Recovery of Virtual Machines

Planning and Implementing an Public Key Infrastructure
- Planning and Implementing Deployment of a Certification Authority
- Planning and Implementing Certificate Templates
- Planning and Implementing Certificate Distribution and Revocation
- Planning and Implementing Key Archival and Recovery

Planning and Implementing an Identity Federation Infrastructure
- Planning and Implementing an A FS Server Infrastructure
- Planning and Implementing AD FS Claim Providers and Relying Parties
- Planning and Implementing AD FS Claims and Claim Rules
- Planning and Implementing Web Application Proxy

Planning and Implementing Data Access for Users and Devices
- Planning and Implementing DAC
- Planning Workplace Join
- Planning Work Folders

Planning and Implementing an Information Rights Management Infrastructure
- AD RMS Overview
- Planning and Implementing an AD RMS Cluster
- Planning and Implementing AD RMS Templates and Policies
- Planning and Implementing External Access to AD RMS Services
- Planning and Implementing AD RMS Integration with Dynamic Access Control
COURSE CLW160
Title: Core Solutions of Microsoft Exchange Server 2013
Exam: Microsoft Exam 70-341

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides Students with the knowledge and skills to plan, deploy, manage, secure, and support Microsoft® Exchange Server 2013. This course will teach Audience how to configure Exchange Server 2013 and supply them with the information they will need to monitor, maintain, and troubleshoot Exchange Server 2013. This course will also provide guidelines, best practices, and considerations that will help students optimize performance and minimize errors and security threats in Exchange Server 2013 to teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Advanced Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Deploying and Managing Microsoft Exchange Server 2013
- Exchange Server 203 Prerequisites and Requirements
- Exchange Server 2013 Deployment
- Managing Exchange Server 2013

Planning and Configuring Mailbox Servers
- Overview of the Mailbox Server
- Planning the Mailbox Server Deployment
- Configuring the Mailbox Servers

Managing Recipient Objects
- Managing Exchange Server 2013 Mailboxes
- Managing Other Exchange Recipients
- Planning and Implementing Public Folder Mailboxes
- Managing Address Lists and Policies

Planning and Deploying Client Access Servers
- Planning Client Access Server Deployment
- Configuring the Client Access Server Role
- Managing Client Access Services

Planning and Configuring Messaging Client Connectivity
- Client Connectivity to the Client Access Server
- Configuring Outlook Web App
- Planning and Configuring Mobile Messaging
- Configuring Secure Internet Access for Client Access Server

Planning and Implementing High Availability
- High Availability on Exchange Server 2013
- Configuring Highly Available Mailbox Databases
- Configuring Highly Available Client Access Server
Planning and Implementing Disaster Recovery
  - Planning for Disaster Mitigation
  - Planning and Implementing Exchange Server 2013 Backup
  - Planning and Implementing Exchange Server 2013 Recovery

Planning and Configuring Message Transport
  - Overview of Message Transport and Routing
  - Planning and Configuring Message Transport
  - Managing Transport Rules

Planning and Configuring Message Hygiene
  - Planning Messaging Security
  - Implementing an Antivirus Solution for Exchange Server 2013
  - Implementing and Anti-Spam Solution for Exchange Server 2013

Planning and Configuring Administrative Security and Auditing
  - Configuring Role-Based Access Control
  - Configuring Audit Logging

Monitoring and Troubleshooting Microsoft Exchange Server 2013
  - Monitoring Exchange Server 2013
  - Maintaining Exchange Server 2013
  - Troubleshooting Exchange Server 2013
**COURSE CLW170**

Title: Advanced Solutions of Microsoft Exchange Server 2013  
Exam: Microsoft Exam 70-342

**Course Description**  
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides Students with the knowledge and skills to configure and manage a Microsoft Exchange Server 2013 messaging environment. This course will teach students how to configure Exchange Server 2013, and it will provide guidelines, best practices, and considerations that will help them optimize your Exchange Server deployment.

**Course Objectives**  
This course will cover the following subjects:

*Overview of Exchange Server 2013 Unified Messaging*  
- Telephony Technologies Overview  
- Unified Messaging in Exchange Server 2013  
- Unified Messaging Components

*Designing and Implementing Exchange Server 2013 Unified Messaging*  
- Designing a Unified Messaging Deployment  
- Deploying and Configuring Unified Messaging Components  
- Integrating Exchange Server 2013 Unified Messaging with Lync

*Designing and Implementing Site Resiliency*  
- Site Resiliency in Exchange 2013  
- Planning Site Resilient Implementation  
- Implementing Site Resiliency

*Planning Virtualization for Exchange Server 2013*  
- Hyper-V 3.0 Overview  
- Virtualizing Exchange Server 2013 Server Roles

*Designing and Implementing Message Transport Security*  
- Overview of Policy and Compliance Requirements  
- Designing and Implementing Transport Compliance  
- Designing and Implementing AD RMS Integration with Exchange Server 2013

*Designing and Implementing Message retention*  
- Message Records Management and Archiving Overview  
- Designing In-Place Archiving  
- Designing and Implementing Message Retention

*Designing and Implementing Messaging Compliance*  
- Designing and Implementing Data Loss Prevention  
- Designing and Implementing an In-Place Hold  
- Designing and Implementing In-Place E-Discovery

*Designing and Implementing Administrative Security and Auditing*  
- Designing and Implementing Role Based Access Control  
- Designing and Implementing Split Permissions
Planning and Implementing Audit Logging

Managing Exchange Server 2013 with Exchange Management Shell
- Overview of Windows PowerShell 3.0
- Using Exchange Management Shell to Manage Exchange Server Recipients
- Managing Exchange Server 2013 with Exchange Management Shell

Designing and Implementing Integration with Exchange Online
- Planning for Exchange Online
- Planning and Implementing the Migration to Exchange Online
- Planning Coexistence with Exchange Online

Designing and Implementing Messaging Coexistence
- Designing and Implementing Federation
- Designing Coexistence Between Exchange Organizations
- Designing and Implementing Cross-Forest Mailbox Moves

Designing and Implementing Exchange Server Migrations and Upgrades
- Designing Migration From Non-Exchange Email Systems
- Planning the Upgrade From Previous Exchange Versions
- Implementing the Migration from Previous Exchange Versions
COURSE CLW180
Title: Managing Office 365 Identities and Services
Exam: Microsoft Exam 70-346 & 70-347

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides Students with the knowledge and skills required the needs of IT professionals who take part in evaluating, planning, deploying, and operating Office 365 services, including its identities, dependencies, requirements, and supporting technologies. This course focuses on skills required to set up an Office 365 tenant, including federation with existing user identities, and skills required to sustain an Office 365 tenant and users.

Course Objectives
This course will cover the following subjects:

Preparing for Office 365
- Introduction to Office 365
- Provisioning the Tenant Accounts
- Planning a Pilot
- Enabling Client Connectivity

Managing Users, Groups, and Licenses
- Manage Users and Licenses by Using the Administration Center
- Managing Security and Distribution Groups
- Manage Cloud Identities with Windows PowerShell

Administering Office 365
- Manage Administrator Roles in Office 365
- Configure Password Management
- Administer Rights Management

Planning and Managing Clients
- Plan for Office Clients
- Manage User-Driven Client Deployments
- Manage IT Deployments of Office 365 ProPlus
- Office Telemetry and Reporting

Planning DNS and Exchange Migration
- Add and Configure Custom Domains
- Recommend a Mailbox Migration Strategy

Planning Exchange Online and Configuring DNS Records
- Plan for Exchange Online
- Continue DNS Records for Services

Administering Exchange Online
- Configure Personal Archive Policies
- Manage Anti-Malware and Anti-Spam Policies
- Configure Additional Email Addresses for Users
- Create and Manage External Contacts, Resources, and Groups
**Configuring SharePoint Online**
- Manage SharePoint Site Collections
- Configure External User Sharing
- Plan a Collaboration Solution

**Configuring Lync Online**
- Plan for Lync Online
- Configure Lync Online Settings

**Implementing Directory Synchronization**
- Prepare On-Premises Active Directory for DirSync
- Set up DirSync
- Manage Active Directory Users and Groups with DirSync In Place

**Implementing Active Directory Federation Services**
- Planning for AD FS
- Install and Manage AD FS Servers
- Install and Manage AD FS Proxy Servers

**Monitoring Office 365**
- Isolate Service Interruption
- Monitor Service Health
- Analyze Reports
COURSE CLW190
Title: Cisco Certified Network Associate
Exam: 200-120

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises covers basic networking concepts implemented on Cisco routers. Students will be introduced to the Cisco Internetworking Operating System (IOS) and its command structure. TCP/IP addressing and implementation, including subnetting, will be covered thoroughly. Wide Area Networking (WAN) implementations including ISDN, frame relay, and serial point-to-point (including T1), will be emphasized. This is an advanced course providing the skills and knowledge necessary to pass the Cisco certification exam (one exam) necessary to become a Cisco Certified Network Associate (CCNA).

Course Objectives
This course will cover the following subjects:

Operation of IP Data Networks
- Recognize the purpose and functions of various network devices such as Routers, Switches, Bridges and Hubs
- Select the components required to meet a given network specification
- Identify common applications and their impact on the network
- Describe the purpose and basic operation of the protocols in the OSI and TCP/IP models
- Predict the data flow between two hosts across a network
- Identify the appropriate media, cables, ports, and connectors to connect Cisco network devices to other network devices and hosts in a LAN

LAN Switching Technologies
- Determine the technology and media access control method for Ethernet networks
- Identify basic switching concepts and the operation of Cisco switches
- Configure and verify initial switch configuration including remote access management
- Verify network status and switch operation using basic utilities
- Describe how VLANs create logically separate networks and the need for routing between them
- Configure and verify VLANs
- Configure and verify trunking on Cisco switches
- Identify enhanced switching technologies
- Configure and verify PVSTP operation

IP Addressing
- Describe the operation and necessity of using private and public IP addresses for IPv4 addressing
- Identify the appropriate IPv6 addressing scheme to satisfy addressing requirements in a LAN/WAN environment
- Identify the appropriate IPv4 addressing scheme using VLSM and summarization to satisfy addressing requirements in a LAN/WAN environment
- Describe the technological requirements for running IPv6 in conjunction with IPv4
- Describe IPv6 addresses

IP Routing Technologies
- Describe basic routing concepts
- Configure and verify utilizing the CLI to set basic router configuration
- Configure and verify operation status of a device interface
- Verify router configuration and network connectivity using
- Configure and verify routing configuration for a static or default route given specific routing requirements
- Differentiate methods of routing and routing protocols
- Configure and verify OSPF
- Configure and verify interVLAN routing (Router on a stick)
- Configure SVI interfaces
- Manage Cisco IOS Files
- Configure and verify EIGRP (single AS)

**IP Services**
- Configure and verify DHCP (IOS Router)
- Describe the types, features, and applications of ACLs
- Configure and verify ACLs in a network environment
- Identify the basic operation of NAT
- Configure and verify NAT for given network requirements
- Configure and verify NTP as a client
- Recognize High availability (FHRP)
- Configure and verify syslog
- Describe SNMP v2 and v3

**Network Device Security**
- Configure and verify network device security features
- Configure and verify switch port security
- Configure and verify ACLs to filter network traffic
- Configure and verify an ACLs to limit telnet and SSH access to the router

**Troubleshooting**
- Troubleshoot and correct common problems associated with IP addressing and host configurations
- Troubleshoot and resolve VLAN problems
- Troubleshoot and resolve trunking problems on Cisco switches
- Troubleshoot and resolve ACL issues
- Troubleshoot and resolve Layer 1 problems
- Identify and correct common network problems
- Troubleshoot and resolve spanning tree operation issues
- Troubleshoot and resolve routing issues
- Troubleshoot and resolve OSPF problems
- Troubleshoot and resolve EIGRP problems
- Troubleshoot and resolve interVLAN routing problems
- Troubleshoot and resolve WAN implementation issues
- Monitor NetFlow statistics
- Troubleshoot EtherChannel problems

**WAN Technologies**
- Identify different WAN Technologies
- Configure and verify a basic WAN serial connection
- Configure and verify a PPP connection between Cisco routers
- Configure and verify frame relay on Cisco routers
- Implement and troubleshoot PPPoE
Cisco Certified Network Expert (CCNE)

Program Summary
This instructor-led program with a combination of lecture and hands-on laboratory exercises covers networking concepts implemented on Cisco routers. Students will be introduced to the Cisco Internetworking Operating System (IOS) and its command structure. TCP/IP addressing and implementation, including subnetting, will be covered thoroughly. Wide Area Networking (WAN) implementations including ISDN, frame relay, and serial point-to-point (including T1), will be emphasized.

This program is also designed to build advanced or journeyman knowledge of both LAN and WAN infrastructure implementations in a Cisco environment. This set of courses builds on the concepts introduced in the CCNA program. Students will be exposed to more in-depth concepts relating to routing implementation and design; TCP/IP design strategies; switching concepts; WAN optimization and performance issues; as well as, basic troubleshooting/support techniques and approaches. Some of the many protocols that will be studied include: TCP/IP, RIP, EIGRP, OSPF, IS-IS, BGP. Other topics include: VLAN implementation and management; spanning-tree protocol; multicast management; remote access implementation; Cisco security features including AAA; subnet concepts, design considerations, and implementation; VLSM; CIDR and more.

In addition, this program covers advanced topics and concepts related to securing Cisco networks. This course covers a wide array of security topics including: Cisco IOS firewall implementation; PIX firewall technology and features; VPN concepts and implementation; IPSec; implementation and design of intrusion detection systems; Cisco’s SAFE implementation; AAA; protocol monitoring and management and much more. The goal of this course is to give the student the tools and knowledge necessary to secure and manage complex network infrastructures – protecting data and productivity, as well as, reducing costs.

This program provides the skills and knowledge necessary to pass the Cisco certifications including Cisco Certified Network Associate (CCNA), Cisco Certified Network Professional (CCNP Route & Switch), and Cisco Certified Security Professional (CCNP Security).

- Certification program
- 576 Contact Hours, 36 Credit Hours, 72 Weeks

TERM 1

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**Prerequisites**
Candidates wishing to enter this course should have completed either a Microsoft or Linux+ networking program or have commensurate experience with PC networking and TCP/IP.

**Type of Document Received Upon Graduation**
Upon successful completion of all program requirements, each student will be awarded a Certificate of Completion.

**Certification Tests**
All certification exams are scored on a pass/fail basis. Depending on the specific exam, a correct response to 75% - 80% of the questions will be required to achieve a passing score. Students are encouraged to take exams immediately following completion of the corresponding course.

**Career Development**
Students who successfully complete this program will be prepared for midlevel to advanced professional opportunities in the IT field with emphasis on installation, configuration and maintenance of Local Area Network (LAN) and Wide Area Network (WAN) infrastructure. Although titles may vary by hiring organizations, students with these credentials are qualified to meet the requirements of positions such as Sr. Network Design Engineer, Sr. Network Security Engineer, Sr. Network Design Specialist, Sr. Network Systems Manager, Network Support or similar designations.
This program also aligns with the following career opportunities classified by US Department of Labor under the Standard Occupational Classification (SOC) system.

- 15-1143 Computer Network Architects
- 25-1021 Computer Science Teacher, Postsecondary
- 11-3021 Computer & Information System Manager
CCNE Program Details

COURSE CCE100
Title: Cisco Certified Network Associate
Exam: 200-120

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises covers basic networking concepts implemented on Cisco routers. Students will be introduced to the Cisco Internetworking Operating System (IOS) and its command structure. TCP/IP addressing and implementation, including subnetting, will be covered thoroughly. Wide Area Networking (WAN) implementations including ISDN, frame relay, and serial point-to-point (including T1), will be emphasized. This is an advanced course providing the skills and knowledge necessary to pass the Cisco certification exam (one exam) necessary to become a Cisco Certified Network Associate (CCNA).

Course Objectives
This course will cover the following subjects:

Operation of IP Data Networks
- Recognize the purpose and functions of various network devices such as Routers, Switches, Bridges and Hubs
- Select the components required to meet a given network specification
- Identify common applications and their impact on the network
- Describe the purpose and basic operation of the protocols in the OSI and TCP/IP models
- Predict the data flow between two hosts across a network
- Identify the appropriate media, cables, ports, and connectors to connect Cisco network devices to other network devices and hosts in a LAN

LAN Switching Technologies
- Determine the technology and media access control method for Ethernet networks
- Identify basic switching concepts and the operation of Cisco switches
- Configure and verify initial switch configuration including remote access management
- Verify network status and switch operation using basic utilities
- Describe how VLANs create logically separate networks and the need for routing between them
- Configure and verify VLANs
- Configure and verify trunking on Cisco switches
- Identify enhanced switching technologies
- Configure and verify PVSTP operation

IP Addressing
- Describe the operation and necessity of using private and public IP addresses for IPv4 addressing
- Identify the appropriate IPv6 addressing scheme to satisfy addressing requirements in a LAN/WAN environment
- Identify the appropriate IPv4 addressing scheme using VLSM and summarization to satisfy addressing requirements in a LAN/WAN environment
- Describe the technological requirements for running IPv6 in conjunction with IPv4
- Describe IPv6 addresses

IP Routing Technologies
- Describe basic routing concepts
- Configure and verify utilizing the CLI to set basic router configuration
- Configure and verify operation status of a device interface
- Verify router configuration and network connectivity using
- Configure and verify routing configuration for a static or default route given specific routing requirements
- Differentiate methods of routing and routing protocols
- Configure and verify OSPF
- Configure and verify interVLAN routing (Router on a stick)
- Configure SVI interfaces
- Manage Cisco IOS Files
- Configure and verify EIGRP (single AS)

**IP Services**
- Configure and verify DHCP (IOS Router)
- Describe the types, features, and applications of ACLs
- Configure and verify ACLs in a network environment
- Identify the basic operation of NAT
- Configure and verify NAT for given network requirements
- Configure and verify NTP as a client
- Recognize High availability (FHRP)
- Configure and verify syslog
- Describe SNMP v2 and v3

**Network Device Security**
- Configure and verify network device security features
- Configure and verify switch port security
- Configure and verify ACLs to filter network traffic
- Configure and verify an ACLs to limit telnet and SSH access to the router

**Troubleshooting**
- Troubleshoot and correct common problems associated with IP addressing and host configurations
- Troubleshoot and resolve VLAN problems
- Troubleshoot and resolve trunking problems on Cisco switches
- Troubleshoot and resolve ACL issues
- Troubleshoot and resolve Layer 1 problems
- Identify and correct common network problems
- Troubleshoot and resolve spanning tree operation issues
- Troubleshoot and resolve routing issues
- Troubleshoot and resolve OSPF problems
- Troubleshoot and resolve EIGRP problems
- Troubleshoot and resolve interVLAN routing problems
- Troubleshoot and resolve WAN implementation issues
- Monitor NetFlow statistics
- Troubleshoot EtherChannel problems

**WAN Technologies**
- Identify different WAN Technologies
- Configure and verify a basic WAN serial connection
- Configure and verify a PPP connection between Cisco routers
- Configure and verify frame relay on Cisco routers
- Implement and troubleshoot PPPoE
COURSE CCE110
Title: Implementing Cisco IP Routing (ROUT)
Exam: 300-101

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises will certify that the successful candidate has important knowledge and skills necessary to use advanced IP addressing and routing in implementing scalability for Cisco ISR routers connected to LANs and WANs. The exam covers topics on Advanced IP Addressing, Routing Principles, Multicast Routing, IPv6, Manipulating Routing Updates, Configuring basic BGP, Configuring EIGRP, OSPF, and IS-IS.

Course Objectives
This course will cover the following subjects:

- Identify Cisco Express Forwarding Concepts
- Explain General Network Challenges
- Describe IP Operations
- Explain TCP Operations
- Describe UDP Operations
- Recognize Proposed Changes to the Network
- Configure and Verify PPP
- Explain Frame Relay
- Identify, Configure, and Verify IPv4 addressing and subnetting
- Identify IPv6 Addressing and Subnetting
- Configure and Verify Static Routing
- Configure and Verify Default Routing
- Evaluate Routing Protocol Types
- Configure and Verify GRE
- Describe DMVPN
- Describe Easy Virtual Networking
- Describe IOS AAA Using Local Database
- Describe Device Security Using IOS AAA with TACACS+ and RADIUS
- Configure and Verify Device Access Control
- Configure and Verify Router Security Features
- Configure and Verify Device Management
- Configure and Verify SNPP
- Configure and Verify Device Management
- Configure and Verify Network Time Protocol
- Configure and Verify IPv4 and IPv6 DHCP
- Configure and Verify IPv4 Network Address Translation
- Describe IPv6 NAT
- Describe SLA Architecture
- Configure and Verify IP SLA
- Configure and Verify Tracking Objects
- Configure and Verify Cisco NetFlow
COURSE CCE120

Title: Implementing Cisco Switched Network (SWITCH)
Exam: 300-115

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises will certify that the successful candidate has important knowledge and skills necessary to implement scalable multilayer switched networks. The exam includes topics on Campus Networks, describing and implementing advanced Spanning Tree concepts, VLANs and Inter-VLAN routing, High Availability, Wireless Client Access, Access Layer Voice concepts, and minimizing service Loss and Data Theft in a Campus Network.

Course Objectives
This course will cover the following subjects:

- Configure and Verify Switch Administration
- Configure and Verify Layer 2 Protocols
- Configure and Verify VLANs
- Configure and Verify Trunking
- Configure and Verify EtherChannels
- Configure and Verify Spanning Tree
- Configure and Verify Other LAN Switching Technologies
- Describe Chassis Virtualization and Aggregation Technologies
- Configure and Verify Switch Security Features
- Describe Device Security Using Cisco IOS AA with TACACS+ and RADIUS
- Configure and Verify First-Hop Redundancy Protocols
COURSE CCE130
Title: Troubleshooting and Maintaining Cisco IP Networks (TSHOOT)
Exam: 300-135

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises will certify that the successful candidate has important knowledge and skills necessary to secure and expand the reach of an enterprise network to (1) plan and perform regular maintenance on complex enterprise routed and switched networks and (2) use technology-based practices and a systematic ITIL-compliant approach to perform network troubleshooting.

Course Objectives
This course will cover the following subjects:

- Use Cisco IOS Troubleshooting Tools
- Apply Troubleshooting methodologies
- Troubleshoot Switch Administration
- Troubleshoot Layer 2 Protocols
- Troubleshoot VLANs
- Troubleshoot Trunking
- Troubleshoot EtherChannels
- Troubleshoot Spanning Tree
- Troubleshoot other LAN Switching Technologies
- Troubleshoot Chassis Virtualization and Aggregation Technologies
- Troubleshoot IPv4 Addressing and Subnetting
- Troubleshoot IPv6 Addressing and Subnetting
- Troubleshoot Static Routing
- Troubleshoot Default Routing
- Troubleshoot Administrative Distance
- Troubleshoot GRE
- Troubleshoot IOS AAA using Local Database
- Troubleshoot Device Access Control
- Troubleshoot Router Security Features
- Troubleshoot Device Management
- Troubleshoot SNMP
- Troubleshoot Logging
- Troubleshoot Network Time Protocol
- Troubleshoot IPv4 and IPv6 DHCP
- Troubleshoot IPv4 Network Address Translation
- Troubleshoot SLA Architecture
- Troubleshoot Tracking Objects
COURSE CCE140
Title: Implementing Cisco Network Security (IINS)
Exam: 210-260

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is associated with the CCNA Security certification. This exam tests a candidate's knowledge of securing Cisco routers and switches and their associated networks. It leads to validated skills for installation, troubleshooting and monitoring of network devices to maintain integrity, confidentiality and availability of data and devices and develops competency in the technologies that Cisco uses in its security infrastructure.

Course Objectives
This course will cover the following subjects:

- Common Security Principals
- Common Security Treats
- Cryptography Concepts
- Describe Network Topologies
- Secure Management
- AAA Concepts
- 802.1X Authentication
- BYOD
- VPN Concepts
- Remote Access VPN
- Site to Site VPN
- Security on Cisco Routers
- Securing Routing Protocols
- Securing the Control Plane
- Common Layer to Attacks
- Mitigation Procedures
- VLAN security
- Describe Operational Strengths and weaknesses of the Different Firewall Technologies
- Compare Stateful vs. Stateless Firewalls
- Implement NAT on Cisco ASA 9.x
- Implement Zone-Based Firewall
- Firewall Features on the Cisco Adaptive Security Appliance 9.x
- Describe IPS Deployment Considerations
- Describe IPS Technologies
- Describe Mitigation Technology for Email-Based Treats
- Describe Mitigation Technology for Web-Based Treats
- Describe Mitigation Technology for Endpoint Treats
COURSE CCE150
Title: Implementing Cisco Secure Access Solutions (SISAS)
Exam: 300-208

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is one of the exams associated with the CCNP Security certification. This course will cover the components and architecture of secure access, by utilizing 802.1X and Cisco TrustSec. It includes knowledge of Cisco Identity Services Engine (ISE) architecture, solution, and components as an overall network threat mitigation and endpoint control solutions. It also includes the fundamental concepts of bring your own device (BYOD) using posture and profiling services of ISE. Candidates can prepare for this exam by taking the Implementing Cisco Secure Access Solutions (SISAS) course.

Course Objectives
This course will cover the following subjects:

- Implement Device Administration
- Describe Identity Management
- Implement Wired/Wireless 802.1X
- Implement MAB
- Implement network authorization enforcement
- Implement Central Web Authentication
- Implement Profiling
- Implement Guest Services
- Implement Posture Services
- Implement BYOD Access
- Describe TrustSec Architecture
- Troubleshoot Identity Management Solutions
- Design Highly Secure Wireless Solution with ISE
- Device Administration
- Identity Management
- Profiling
- Guest Services
- Posturing Services
- BYOD Access
COURSE CCE160
Title: Implementing Cisco Edge Network Security Solutions (SENSS)
Exam: 300-206

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is one of the exams associated with the CCNP Security. The Implementing Cisco Edge Network Security Course includes the knowledge of a network security engineer to configure and implement security on Cisco network perimeter edge devices such as a Cisco switch, Cisco router, and Cisco ASA firewall. This course focuses on the technologies used to strengthen security of a network perimeter such as Network Address Translation (NAT), ASA policy and application inspect, and a zone-based firewall on Cisco routers.

Course Objectives
This course will cover the following subjects:

- Implement Firewall
- Implement Layer 2 Security
- Configure Device Hardening Per Best Practices
- Implement SSHv2, HTTPS, and SNMPv3 Access on the Network Devices
- Implement RBAC on the ASA/IOS using CLI and ASDM
- Describe Cisco Prime Infrastructure
- Describe Cisco Security Manager
- Implement Device Mangers
- Configure NetFlow Exporter on Cisco Routers, Switches, and ASA
- Implement SNMPv3
- Implement Logging on Cisco Routers, Switches, and ASA Using Cisco Best Practices
- Implement NTP with Authentication on Cisco Routers, Switches, and ASA
- Describe CDP, DNS, SCP, SFTP, and DHCP
- Analyze Packet Tracer on the Fire Using CLI/ASDM
- Configure and Analyze Packet Capture Using CLI/ASDM
- Analyze Syslog Events Generated From ASA
- Design a Firewall Solution
- Layer 2 Security Solutions
- Describe Security Operations Management Architectures
- Describe Data Center Security Components and Considerations
- Describe Common IPv6 Security Considerations
COURSE CCE170
Title: Implementing Cisco Secure Mobility Solutions (SiMOS)
Exam: 300-209

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is associated with the Implementing Cisco Secure Mobility Solutions (SIMOS) tests a network security engineer on the variety of Virtual Private Network (VPN) solutions that Cisco has available on the Cisco ASA firewall and Cisco IOS software platforms. This course provides the knowledge necessary to properly implement highly secure remote communications through VPN technology, such as remote access SSL VPN and site-to-site VPN (DMVPN, FlexVPN). Candidates can prepare for this exam by taking the Implementing Cisco Secure Mobility Solutions (SIMOS) course.

Course Objectives
This course will cover the following subjects:

- Site-to-Site VPNs on Routers and Firewalls
- Describe GETVPN
- Implement IPsec
- Implement DMVPN
- Implement FlexVPN
- Implement Remote Access VPNs
- Implement AnyConnect IKEv2 VPNs on ASA and Routers
- Implement AnyConnect SSLVPN on ASA and Routers
- Implement Clientless SSLVPN on ASA and Routers
- Implement FLEX VPN on Routers
- Troubleshoot VPN Using ASDM & CLI
- Troubleshoot IPsec
- Troubleshoot DMVPN
- Troubleshoot FlexVPN
- Troubleshoot AnyConnect IKEv2 and SSL VPNs on ASA and Routers
- Troubleshoot Clientless SSLVPN on ASA and Routers
- Design Site-to-Site VPN Solutions
- Identify Functional Components of GETVPN, FlexVPN, DMVPN, and IPsec
- VPN Technology Consideration Based on Functional Requirements
- High Availability Consideration
- Identify VPN Technology Based on Configuration Output
- Design Remote Access VPN Solution
- Clientless SSL Browser and Client Considerations / Requirements
- Identify Split Tunneling Requirements
- Describe Encryption, Hashing, and Next generation Encryption (NGE)
- Describe PKI Components Protection Methods
- Compare and Contrast SSL, DTLS, and TLS
COURSE CCE180
Title: Implementing Cisco Threat Control Solutions (SITCS)
Exam: 300-207

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is associated with the Cisco Certified Network Professional Security certification. The Implementing Cisco Threat Control Solutions (SITCS) provides a network security engineer on advanced firewall architecture and configuration with the Cisco next-generation firewall, utilizing access and identity policies. This Course covers integration of Intrusion Prevention System (IPS) and context-aware firewall components, as well as Web (Cloud) and Email Security solutions. Candidates can prepare for this exam by taking the Implementing Cisco Threat Control Solutions (SITCS) course.

Course Objectives
This course will cover the following subjects:

- Cisco ASA 5500-X NGFW Security Services
- Describe Features and Functionality
- Implement Web Usage Control
- Implement AVS
- Cisco Cloud Web Security
- Implement IOS and ASA Connectors
- Implement AnyConnect Web Security Module
- Implement Anti-Malware
- Cisco WSA
- Implement Data Security
- Describe Decryption Policies
- Describe Traffic Redirection and Capture Methods
- Cisco ESA
- Implement email Encryption
- Implement Anti-Spam Policies
- Implement Virus Outbreak Filter
- Network IPS
- Implement Traffic Redirection and Capture Methods
- Implement Network IPS Deployment Modes
- Describe Signatures Engines
- Configure Device Hardening Per Best practices
- Content Security
- Configure IME and IP Logging for IPS
- Content Security
- Monitor Cisco Security IntelliShield
- Design IPS Solution
- Design Web Security Solution
- Design Email Security Solution
- Design Application Security Solution
Certified Network Technologies Expert (CNTE)

Program Summary
This instructor-led program with a combination of lecture and hands-on laboratory exercises is our most comprehensive and diverse program combining the coursework of multiple disciplines. This program begins with a PC hardware and software course, provides in-depth coursework on the Microsoft operation systems, offers an introduction to the Linux operating system, and guides the student through multiple levels of network infrastructure study for both Cisco and Microsoft environments. The goal of this program is to offer the student a single program to build the knowledge, skills, and certifications necessary to become a well-respected and well-trained professional poised to become a success in today’s information technology environment.

- Certification program
- 1152 Contact Hours, 72 Credit Hours, 72 Weeks

TERM 1

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Type of Document Received Upon Graduation

Upon successfully completing all requirements of the programs offered at Brand College, the student will be awarded a Certificate of Completion.

Certification Tests

Performance on a certification test is based on a pass or fail. You must receive between 75% and 80%, depending on the test, to pass. It is encouraged to take each test as soon as you complete the corresponding course.

Career Development

Students who successfully complete this program will be prepared for midlevel to advanced professional opportunities in the IT field with emphasis on installation, configuration and maintenance of Local Area Network (LAN) and Wide Area Network (WAN) infrastructure. In addition, the students are qualified for positions involving the planning, installation, and maintenance of client workstation as well as server operating system, applications and network infrastructure services using Microsoft and Linux technologies. Although titles may vary by hiring organizations, students with these credentials are qualified to meet the requirements of positions such as Sr. Network Design Engineer, Sr. Network Systems Manager, Manager of Network Systems or similar designations.

This program also aligns with the following career opportunities classified by US Department of Labor under the Standard Occupational Classification (SOC) system.

- 25-1021 Computer Science Teacher, Postsecondary
- 15-1152 Computer Network Support Specialist
- 15-1143 Computer Network Architects
CNTE Program Details

**COURSE CTE100**

Title: PC Hardware and Operating System  
Exam: CompTIA Exams 220-801 and 220-802

**Course Description**  
This instructor-led course with a combination of lecture and hands-on laboratory exercises is designed to introduce the students to computer hardware concepts and the skills required to build a Personal Computer (PC) from the ground up. In addition, students will learn software concepts with the newest versions of Microsoft Windows. The primary goal of this course is to give students a basic understanding of every aspect of hardware and software relating to the PC. However, the final portion of this course will introduce the student to basic networking concepts and network implementation using Microsoft Windows operating systems.

**Course Objectives**  
This course will cover the following subjects:

- Skills in Managing and Troubleshooting PCs
- Operational Procedures
- Perform Preventive Maintenance
- Diagnostics and Troubleshooting
- Professionalism and Communication
- Safety and Tools
- Personal Computer Components
- System Unit Components
- Personal Computer Connection Methods
- Tools of the Trade
- Display Devices
- Input Devices
- Adapter Cards
- Multimedia Devices
- Storage Devices
- Power Supplies
- Memory
- CPUs
- System Boards
- BIOS
- Personal Computer Operating Systems
- Windows User Interface Components
- Windows File System Management
- Windows System Management Tools
- Install, Upgrade, and Optimize Microsoft Windows
- Operating System Utilities
- Maintain and Troubleshoot Microsoft Windows
- Recover Microsoft Windows
- Command Line Interface
- Network Concepts and Communications
- Network Connectivity
- Wireless Networks
- Create Network Connections
- Internet Technologies
- Virtualization
- Install and Configure Web Browser
- Maintain and Troubleshoot Network Connections
- Laptop and Portable Computing Device Components
- Printer and Scanner Technologies
- Printer and Scanner Components
- Printer and Scanner Processes
- Install and Configure Printers and Scanners
- Maintain and Troubleshoot Printers and Scanners
- Security Fundamentals
- Security Protection Measures
- Data and Physical Security
- Wireless Security
- Social Engineering
- Install and Configure Security Measures
- Maintain and Troubleshoot Security Measures
- Virtualization
**COURSE CTE110**

Title: Installing and configuring Windows Server 2012
Exam: Microsoft Exam 70-410

**Course Description**
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to install, configure, and maintain Windows Server 2012. This course is intended for Windows Server 2012 Technology Specialists, in Network Infrastructure and Active Directory, who are interested in learning professional level Server Administrator skills to plan, manage, and maintain Windows Server 2012.

**Course Objectives**
This course will cover the following subjects:

*Deploying and Managing Windows Server 2012*
- Windows Server 2012 Overview
- Installing Windows Server 2012
- Post-Installation Configuration of Windows Server 2012
- Overview of Windows Server 2012 Management
- Introduction to Windows PowerShell

*Introduction to Active Directory Domain Services*
- Overview of AD DS
- Overview of Domain Controllers
- Installing a Domain Controller

*Managing Active Directory Domain Services Objects*
- Managing User Accounts
- Managing Groups
- Managing Computer Accounts
- Delegating Administration
- Delegate permissions to perform AD DS administration.

*Automating Active Directory Domain Services*
- Using Command-line Tools for AD DS Administration
- Using Windows PowerShell for AD DS Administration
- Performing Bulk Operations with Windows PowerShell

*Implementing IPv4*
- Overview of TCP/IP
- Understanding IPv4 Addressing
- Subnetting and Super-netting
- Configuring and Troubleshooting IPv4

*Implementing DHCP*
- Overview of the DHCP Server Role
- Configuring DHCP Scopes
- Managing a DHCP Database
- Securing and Monitoring DHCP
Implementing DNS
- Name Resolution for Windows Clients and Servers
- Installing a DNS Server
- Managing DNS Zones

Implementing IPv6
- Overview of IPv6
- IPv6 Addressing
- Coexistence with IPv4
- IPv6 Transition Technologies

Implementing Local Storage
- Overview of Storage
- Managing Disks and Volumes
- Implementing Storage Spaces

Implementing File and Print Services
- Securing Files and Folders
- Protecting Shared Files and Folders by Using Shadow Copies
- Configuring Work Folders
- Configuring Network Printing

Implementing Group Policy
- Overview of Group Policy
- Group Policy Processing
- Implementing a Central Store for Administrative Templates

Securing Windows Servers Using Group Policy Objects
- Security Overview for Windows Operating Systems
- Configuring Security Settings
- Restricting Software
- Configuring Windows Firewall with Advanced Security

Implementing Server Virtualization with Hyper-V
- Overview of Virtualization Technologies
- Implementing Hyper-V
- Managing Virtual Machine Storage
- Managing Virtual Networks
COURSE CTE120
Title: Administering Windows Server 2012
Exam: Microsoft Exam 70-411

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to administer and troubleshoot a Windows Sever 2012 network infrastructure. Students will learn to implement and configure secure network access and implement fault tolerant storage technologies. Students will gain an understanding of the network technologies most commonly used with Windows Server 2012 and IP-enabled networks. Students will also learn how to secure servers and maintain update compliance.

Course Objectives
This course will cover the following subjects:

Configuring and Troubleshooting Domain Name System
- Configuring the DNS Server Role
- Configuring DNS Zones
- Configuring DNS Zone Transfers
- Managing and Troubleshooting DNS

Maintaining Active Directory Domain Services
- Overview of AD DS
- Implementing Virtualized Domain Controllers
- Implementing RODCs
- Administering AD DS
- Managing the AD DS Database

Managing User and Service Accounts
- Configuring Password Policy and User Account Lockout Settings
- Configuring Managed Service Accounts

Implementing a Group Policy Infrastructure
- Introducing Group Policy
- Implementing and Administering GPOs
- Group Policy Scope and Group Policy Processing
- Troubleshooting the Application of GPOs

Managing User Desktops with Group Policy
- Implementing Administrative Templates
- Configuring Folder Redirection and Scripts
- Configuring Group Policy Preferences
- Managing Software with Group Policy

Installing, Configuring, and Troubleshooting the Network Policy Server Role
- Installing and Configuring a Network Policy Server
- Configuring RADIUS Clients and Servers
- NPS Authentication Methods
- Monitoring and Troubleshooting a Network Policy Server
Implementing Network Access Protection
- Overview of Network Access Protection
- Overview of NAP Enforcement Processes
- Configuring NAP
- Configuring IPSec Enforcement for NAP
- Monitoring and Troubleshooting NAP

Implementing Remote Access
- Overview of Remote Access
- Implementing DirectAccess by Using the Getting Started Wizard
- Implementing and Managing an Advanced DirectAccess Infrastructure
- Implementing VPN
- Implementing Web Application Proxy

Optimizing File Services
- Overview of FSRM
- Using FSRM to Manage Quotas, File Screens, and Storage Reports
- Implementing Classification and File Management Tasks
- Overview of DFS
- Configuring DFS Namespaces
- Configuring and Troubleshooting DFS Replication

Configuring Encryption and Advanced Auditing
- Encrypting Drives by Using BitLocker
- Encrypting Files by Using EFS
- Configuring Advanced Auditing

Deploying and Maintaining Server Images
- Overview of Windows Deployment Services
- Managing Images
- Implementing Deployment with Windows Deployment Services
- Administering Windows Deployment Services

Implementing Update Management
- Overview of WSUS
- Deploying Updates with WSUS

Monitoring Windows Server 2012
- Monitoring Tools
- Using Performance Monitor
- Monitoring Event Logs
**COURSE CTE130**

**Title:** Configuring advanced Windows Server 2012 Services  
**Exam:** Microsoft Exam 70-412

**Course Description**
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience implementing, managing and maintaining a Windows Server 2012 or Windows Server 2012 R2 environment who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

**Course Objectives**
This course will cover the following subjects:

*Implementing Advanced Network Services*
- Configuring Advanced DHCP Features
- Configuring Advanced DNS Settings
- Implementing IPAM
- Managing IP Address Spaces with IPAM

*Implementing Advanced File Services*
- Configuring iSCSI Storage
- Configuring BranchCache
- Optimizing Storage Usage

*Implementing Dynamic Access Control*
- Overview of DAC
- Implementing DAC Components
- Implementing DAC for Access Control
- Implementing Access Denied Assistance
- Implementing and Managing Work Folders

*Implementing Distributed Active Directory Domain Services Deployments*
- Overview of Distributed AD DS Deployments
- Deploying a Distributed AD DS Environment
- Configuring AD DS Trusts

*Implementing Active Directory Domain Services Sites and Replication*
- AD DS Replication Overview
- Configuring AD DS Sites
- Configuring and Monitoring AD DS Replication

*Implementing AD CS*
- Using Certificates in a Business Environment
- PKI Overview
- Deploying CAs
- Deploying and Managing Certificate Templates
- Implementing Certificate Distribution and Revocation
- Managing Certificate Recovery
Implementing Active Directory Rights Management Services
- AD RMS Overview
- Deploying and Managing an AD RMS Infrastructure
- Configuring AD RMS Content Protection
- Configuring External Access to AD RMS

Implementing and Administering AD FS
- Overview of AD FS
- Deploying AD FS
- Implementing AD FS for a Single Organization
- Deploying AD FS in a Business-to-Business Federation Scenario
- Extending AD FS to External Clients

Implementing Network Load Balancing
- Overview of NLB
- Configuring an NLB Cluster
- Planning an NLB Implementation

Implementing Failover Clustering
- Overview of Failover Clustering
- Implementing a Failover Cluster
- Configuring Highly Available Applications and Services on a Failover Cluster
- Maintaining a Failover Cluster
- Implementing a Multi-Site Failover Cluster

Implementing Failover Clustering with Hyper-V
- Overview of Integrating Hyper-V with Failover Clustering
- Implementing Hyper-V Virtual Machines on Failover Clusters
- Implementing Hyper-V Virtual Machine Movement

Implementing Business Continuity and Disaster Recovery
- Data Protection Overview
- Implementing Windows Server Backup
- Implementing Server and Data Recovery
COURSE CTE140
Title: Installing and Configuring Windows 10
Exam: Microsoft Exam 70-697

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills required to install and configure Windows 10 desktops and devices in a Windows Server domain corporate environment. These skills include learning how to install and customize Windows 10 operating systems and apps, and configure local and remote network connectivity and storage. Students will also learn how to configure data security, device security, and network security, and maintain, update, and recover Windows 10.

Course Objectives
This course will cover the following subjects:

Overview of Windows 10
- Introducing Windows 10
- Navigating the User Interface

Installing Windows 10
- Installing Windows 10
- Upgrading to Windows 10

Configuring your Device
- Overview of Tools You Can Use to Configure Windows 10
- Common Configuration Options
- Managing User Accounts
- Using OneDrive

Configuring Network Connectivity
- Configuring IP Network Connectivity
- Implementing Name Resolution
- Implementing Wireless Network Connectivity
- Overview of Remote Access

Managing Storage
- Overview of Storage Options
- Managing Disks, Partitions, and Volumes
- Maintaining Disks and Volumes
- Managing Storage Spaces

Managing Files and Printers
- Overview of File Systems
- Configuring and Managing File Access
- Configuring and Managing Shared Folders
- Work Folders
- Managing Printers
Managing Apps in Windows 10
- Overview of Providing Apps to Users
- The Windows Store
- Web Browsers

Managing Data Security
- Overview of Data-Related Security Threats
- Security Data with EFS
- Implementing and Managing BitLocker

Managing Device Security
- Using Security Settings to Migrate Threats
- Configuring UAC
- Configuring Application Restriction

Managing Network Security
- Overview of Network-Related Security Threats
- Windows Firewall
- Connection Security Rules
- Windows Defender

Troubleshooting and recovery
- Managing Devices and Drives
- Recovering Files
- Recovering Devices

Maintaining Windows 10
- Updating Windows
- Monitoring Windows 10
- Optimizing Performance
COURSE CTE150
Title: Designing and Implementing a Server Infrastructure
Exam: Microsoft Exam 70-413

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Planning Server Upgrade and Migration
- Consideration for Upgrades and Migrations
- Creating a Server Upgrade and Migration Plan
- Planning for Virtualization

Planning and Implementing a Server Deployment Strategy
- Selecting an appropriate Server deployment strategy
- Implementing an Automated Deployment Strategy

Planning and Deploying Servers Using Virtual Machine Manager
- System Center 2012 R2 Virtual Machine Manager Overview
- Implementing a Virtual Machine Manager Library and Profiles
- Planning and Deploying Virtual Machine Manager Services

Designing and Maintaining an IP Configuration and Address Management Solution
- Designing DHCP Servers
- Planning DHCP Scopes
- Designing an IPAM Provisioning Strategy
- Managing Servers and Address Spaces by Using IPAM

Designing and Implementing Name Resolution
- Designing DNS Server Implementation Strategy
- Designing the DNS Namespace
- Designing DNS Zones
- Designing DNS Zone Replication and Delegation

Designing and Implementing an Active Directory Domain Services Forest and Domain Infrastructure
- Designing an Active Directory Forest
- Designing and Implementing Active Directory Forest Trusts
- Designing Active Directory Integration with Windows Azure Active Directory
- Designing and Implementing Active Directory Domains

Designing and Implementing an AD DS Organizational Unit Infrastructure
- Planning the Active Directory Administrative Tasks Delegation Model
- Designing an OU Structure
- Designing and Implementing an AD DS Group Strategy
Designing and Implementing a Group Policy Object Strategy
- Collecting the information Required for a GPO Design
- Designing and Implementing GPOs
- Designing GPO Processing
- Planning Group Policy Management

Designing and Implementing an AD DS Physical Topology
- Designing and Implementing Active Directory Sites
- Designing Active Directory Replication
- Designing the placement of Domain Controllers
- Designing Highly Available Domain Controllers

Planning and Implementing Storage and File Services
- Planning and Implementing iSCSI SANs
- Planning and Implementing Storage Spaces
- Optimizing File Services for Branch Offices

Designing and Implementing Network Protection
- Overview of Network Security Design
- Designing and Implementing a Windows Firewall Strategy
- Designing and Implementing a NAP Infrastructure

Designing and Implementing Remote Access Services
- Planning and Implementing DirectAccess
- Planning and Implementing VPN
- Planning and Implementing Web Application Proxy
- Planning a Complex Remote Access Infrastructure
COURSE CTE160
Title: Implementing an Advanced Server Infrastructure
Exam: Microsoft Exam 70-414

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides to teach Information Technology (IT) Professionals with hands on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Advanced Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Overview of Management in an Enterprise Data Center
- Overview of the Enterprise Data Center
- Overview of the Microsoft System Center 2012 R2 Components

Planning and Implementing a Server Virtualization Strategy
- Planning a VMM Deployment
- Planning and Implementing a Server Virtualization Host Environment

Planning and Implementing Networks and Storage for Virtualization
- Planning a Storage Infrastructure for Virtualization
- Implementing a Storage Infrastructure for Virtualization
- Planning and Implementing Network Infrastructure for Virtualization
- Planning and Implementing Network Virtualization

Planning and Deploying Virtual Machines
- Planning a Virtual Machine Configuration
- Preparing for Virtual Machine Deployments with VMM
- Deploying Virtual Machines
- Planning and Implementing Hyper-V Replica

Planning and Implementing a Virtualization Administration Solution
- Planning and Implementing Automation with System Center 2012
- Planning and Implementing System Center 2012 Administration
- Planning and Implementing Self-Service Options in System Center 2012
- Planning and Implementing Updates in a Server Virtualization Infrastructure

Planning and Implementing a Server Monitoring Strategy
- Planning Monitoring in Windows Server 2012
- Overview of Operations Manager
- Planning and Configuring Monitoring Components
- Configuring Integration with VMM

Planning and Implementing High Availability for Files Services and Applications
- Planning and Implementing Storage Spaces
- Planning and Implementing a DFS
- Planning and Implementing a NLB
Planning and Implementing a High Availability Infrastructure Using Failover Clustering
- Planning an Infrastructure for Failover Clustering
- Implementing Failover Clustering
- Planning and Implementing Updates for Failover Clusters
- Integrating Failover Clustering with Server Virtualization
- Planning a Multisite Failover Cluster

Planning and Implementing a Business Continuity Strategy
- Overview of Business Continuity Planning
- Planning and Implementing Backup Strategies
- Planning and Implementing Recovery
- Planning and Implementing Backup and Recovery of Virtual Machines

Planning and Implementing a Public Key Infrastructure
- Planning and Implementing Deployment of a Certification Authority
- Planning and Implementing Certificate Templates
- Planning and Implementing Certificate Distribution and Revocation
- Planning and Implementing Key Archival and Recovery

Planning and Implementing an Identity Federation Infrastructure
- Planning and Implementing an A FS Server Infrastructure
- Planning and Implementing AD FS Claim Providers and Relying Parties
- Planning and Implementing AD FS Claims and Claim Rules
- Planning and Implementing Web Application Proxy

Planning and Implementing Data Access for Users and Devices
- Planning and Implementing DAC
- Planning Workplace Join
- Planning Work Folders

Planning and Implementing an Information Rights Management Infrastructure
- AD RMS Overview
- Planning and Implementing an AD RMS Cluster
- Planning and Implementing AD RMS Templates and Policies
- Planning and Implementing External Access to AD RMS Services
- Planning and Implementing AD RMS Integration with Dynamic Access Control
COURSE CTE170
Title: Core Solutions of Microsoft Exchange Server 2013
Exam: Microsoft Exam 70-341

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to plan, deploy, manage, secure, and support Microsoft® Exchange Server 2013. This course will teach the audience how to configure Exchange Server 2013 and supply them with the information they will need to monitor, maintain, and troubleshoot Exchange Server 2013. This course will also provide guidelines, best practices, and considerations that will help students optimize performance and minimize errors and security threats in Exchange Server 2013. This course will teach Information Technology (IT) Professionals with hands-on experience Designing and Implementing Server 2012 or Windows Server 2012 R2 Advanced Infrastructure who wish to acquire the skills and knowledge necessary to perform advanced management and provisioning of services within that Windows Server 2012 environment.

Course Objectives
This course will cover the following subjects:

Deploying and Managing Microsoft Exchange Server 2013
- Exchange Server 203 Prerequisites and Requirements
- Exchange Server 2013 Deployment
- Managing Exchange Server 2013

Planning and Configuring Mailbox Servers
- Overview of the Mailbox Server
- Planning the Mailbox Server Deployment
- Configuring the Mailbox Servers

Managing Recipient Objects
- Managing Exchange Server 2013 Mailboxes
- Managing Other Exchange Recipients
- Planning and Implementing Public Folder Mailboxes
- Managing Address Lists and Policies

Planning and Deploying Client Access Servers
- Planning Client Access Server Deployment
- Configuring the Client Access Server Role
- Managing Client Access Services

Planning and Configuring Messaging Client Connectivity
- Client Connectivity to the Client Access Server
- Configuring Outlook Web App
- Planning and Configuring Mobile Messaging
- Configuring Secure Internet Access for Client Access Server

Planning and Implementing High Availability
- High Availability on Exchange Server 2013
- Configuring Highly Available Mailbox Databases
- Configuring Highly Available Client Access Server
Planning and Implementing Disaster Recovery
- Planning for Disaster Mitigation
- Planning and Implementing Exchange Server 2013 Backup
- Planning and Implementing Exchange Server 2013 Recovery

Planning and Configuring Message Transport
- Overview of Message Transport and Routing
- Planning and Configuring Message Transport
- Managing Transport Rules

Planning and Configuring Message Hygiene
- Planning Messaging Security
- Implementing an Antivirus Solution for Exchange Server 2013
- Implementing and Anti-Spam Solution for Exchange Server 2013

Planning and Configuring Administrative Security and Auditing
- Configuring Role-Based Access Control
- Configuring Audit Logging

Monitoring and Troubleshooting Microsoft Exchange Server 2013
- Monitoring Exchange Server 2013
- Maintaining Exchange Server 2013
- Troubleshooting Exchange Server 2013
COURSE CTE180
Title: Advanced Solutions of Microsoft Exchange Server 2013
Exam: Microsoft Exam 70-342

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills to configure and manage a Microsoft Exchange Server 2013 messaging environment. This course will teach students how to configure Exchange Server 2013, and it will provide guidelines, best practices, and considerations that will help them optimize your Exchange Server deployment.

Course Objectives
This course will cover the following subjects:

Overview of Exchange Server 2013 Unified Messaging
- Telephony Technologies Overview
- Unified Messaging in Exchange Server 2013
- Unified Messaging Components

Designing and Implementing Exchange Server 2013 Unified Messaging
- Designing a Unified Messaging Deployment
- Deploying and Configuring Unified Messaging Components
- Integrating Exchange Server 2013 Unified Messaging with Lync

Designing and Implementing Site Resiliency
- Site Resiliency in Exchange 2013
- Planning Site Resilient Implementation
- Implementing Site Resiliency

Planning Virtualization for Exchange Server 2013
- Hyper-V 3.0 Overview
- Virtualizing Exchange Server 2013 Server Roles

Designing and Implementing Message Transport Security
- Overview of Policy and Compliance Requirements
- Designing and Implementing Transport Compliance
- Designing and Implementing AD RMS Integration with Exchange Server 2013

Designing and Implementing Message retention
- Message Records Management and Archiving Overview
- Designing In-Place Archiving
- Designing and Implementing Message Retention

Designing and Implementing Messaging Compliance
- Designing and Implementing Data Loss Prevention
- Designing and Implementing an In-Place Hold
- Designing and Implementing In-Place E-Discovery

Designing and Implementing Administrative Security and Auditing
- Designing and Implementing Role Based Access Control
- Designing and Implementing Split Permissions
- Planning and Implementing Audit Logging

**Managing Exchange Server 2013 with Exchange Management Shell**
- Overview of Windows PowerShell 3.0
- Using Exchange Management Shell to Manage Exchange Server Recipients
- Managing Exchange Server 2013 with Exchange Management Shell

**Designing and Implementing Integration with Exchange Online**
- Planning for Exchange Online
- Planning and Implementing the Migration to Exchange Online
- Planning Coexistence with Exchange Online

**Designing and Implementing Messaging Coexistence**
- Designing and Implementing Federation
- Designing Coexistence Between Exchange Organizations
- Designing and Implementing Cross-Forest Mailbox Moves

**Designing and Implementing Exchange Server Migrations and Upgrades**
- Designing Migration From Non-Exchange Email Systems
- Planning the Upgrade From Previous Exchange Versions
- Implementing the Migration from Previous Exchange Versions
COURSE CTE190
Title: Managing Office 365 Identities and Services
Exam: Microsoft Exam 70-346 & 70-347

Course Description
This instructor-led course with a combination of lecture and hands-on laboratory exercises provides students with the knowledge and skills required for the needs of IT professionals who take part in evaluating, planning, deploying, and operating Office 365 services, including its identities, dependencies, requirements, and supporting technologies. This course focuses on skills required to set up an Office 365 tenant, including federation with existing user identities, and skills required to sustain an Office 365 tenant and users.

Course Objectives
This course will cover the following subjects:

Preparing for Office 365
- Introduction to Office 365
- Provisioning the Tenant Accounts
- Planning a Pilot
- Enabling Client Connectivity

Managing Users, Groups, and Licenses
- Manage Users and Licenses by Using the Administration Center
- Managing Security and Distribution Groups
- Manage Cloud Identities with Windows PowerShell

 Administering Office 365
- Manage Administrator Roles in Office 365
- Configure Password Management
- Administer Rights Management

Planning and Managing Clients
- Plan for Office Clients
- Manage User-Driven Client Deployments
- Manage IT Deployments of Office 365 ProPlus
- Office Telemetry and Reporting

Planning DNS and Exchange Migration
- Add and Configure Custom Domains
- Recommend a Mailbox Migration Strategy

Planning Exchange Online and Configuring DNS Records
- Plan for Exchange Online
- Continue DNS Records for Services

Administering Exchange Online
- Configure Personal Archive Policies
- Manage Anti-Malware and Anti-Spam Policies
- Configure Additional Email Addresses for Users
- Create and Manage External Contacts, Resources, and Groups
Configuring SharePoint Online
- Manage SharePoint Site Collections
- Configure External User Sharing
- Plan a Collaboration Solution

Configuring Lync Online
- Plan for Lync Online
- Configure Lync Online Settings

Implementing Directory Synchronization
- Prepare On-Premises Active Directory for DirSync
- Set up DirSync
- Manage Active Directory Users and Groups with DirSync In Place

Implementing Active Directory Federation Services
- Planning for AD FS
- Install and Manage AD FS Servers
- Install and Manage AD FS Proxy Servers

Monitoring Office 365
- Isolate Service Interruption
- Monitor Service Health
- Analyze Reports
COURSE CTE200
Title: Cisco Certified Network Associate
Exam: 200-120

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises covers basic networking concepts implemented on Cisco routers. Students will be introduced to the Cisco Internetworking Operating System (IOS) and its command structure. TCP/IP addressing and implementation, including subnetting, will be covered thoroughly. Wide Area Networking (WAN) implementations including ISDN, frame relay, and serial point-to-point (including T1), will be emphasized. This is an advanced course providing the skills and knowledge necessary to pass the Cisco certification exam (one exam) necessary to become a Cisco Certified Network Associate (CCNA).

Course Objectives
This course will cover the following subjects:

Operation of IP Data Networks
- Recognize the purpose and functions of various network devices such as Routers, Switches, Bridges and Hubs
- Select the components required to meet a given network specification
- Identify common applications and their impact on the network
- Describe the purpose and basic operation of the protocols in the OSI and TCP/IP models
- Predict the data flow between two hosts across a network
- Identify the appropriate media, cables, ports, and connectors to connect Cisco network devices to other network devices and hosts in a LAN

LAN Switching Technologies
- Determine the technology and media access control method for Ethernet networks
- Identify basic switching concepts and the operation of Cisco switches
- Configure and verify initial switch configuration including remote access management
- Verify network status and switch operation using basic utilities
- Describe how VLANs create logically separate networks and the need for routing between them
- Configure and verify VLANs
- Configure and verify trunking on Cisco switches
- Identify enhanced switching technologies
- Configure and verify PVSTP operation

IP Addressing
- Describe the operation and necessity of using private and public IP addresses for IPv4 addressing
- Identify the appropriate IPv6 addressing scheme to satisfy addressing requirements in a LAN/WAN environment
- Identify the appropriate IPv4 addressing scheme using VLSM and summarization to satisfy addressing requirements in a LAN/WAN environment
- Describe the technological requirements for running IPv6 in conjunction with IPv4
- Describe IPv6 addresses

IP Routing Technologies
- Describe basic routing concepts
- Configure and verify utilizing the CLI to set basic router configuration
- Configure and verify operation status of a device interface
- Verify router configuration and network connectivity using
- Configure and verify routing configuration for a static or default route given specific routing requirements
- Differentiate methods of routing and routing protocols
- Configure and verify OSPF
- Configure and verify interVLAN routing (Router on a stick)
- Configure SVI interfaces
- Manage Cisco IOS Files
- Configure and verify EIGRP (single AS)

**IP Services**
- Configure and verify DHCP (IOS Router)
- Describe the types, features, and applications of ACLs
- Configure and verify ACLs in a network environment
- Identify the basic operation of NAT
- Configure and verify NAT for given network requirements
- Configure and verify NTP as a client
- Recognize High availability (FHRP)
- Configure and verify syslog
- Describe SNMP v2 and v3

**Network Device Security**
- Configure and verify network device security features
- Configure and verify switch port security
- Configure and verify ACLs to filter network traffic
- Configure and verify an ACLs to limit telnet and SSH access to the router

**Troubleshooting**
- Troubleshoot and correct common problems associated with IP addressing and host configurations
- Troubleshoot and resolve VLAN problems
- Troubleshoot and resolve trunking problems on Cisco switches
- Troubleshoot and resolve ACL issues
- Troubleshoot and resolve Layer 1 problems
- Identify and correct common network problems
- Troubleshoot and resolve spanning tree operation issues
- Troubleshoot and resolve routing issues
- Troubleshoot and resolve OSPF problems
- Troubleshoot and resolve EIGRP problems
- Troubleshoot and resolve interVLAN routing problems
- Troubleshoot and resolve WAN implementation issues
- Monitor NetFlow statistics
- Troubleshoot EtherChannel problems

**WAN Technologies**
- Identify different WAN Technologies
- Configure and verify a basic WAN serial connection
- Configure and verify a PPP connection between Cisco routers
- Configure and verify frame relay on Cisco routers
- Implement and troubleshoot PPPoE
COURSE CTE210
Title: Implementing Cisco IP Routing (ROUT)
Exam: 300-101

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises will certify that the successful candidate has important knowledge and skills necessary to use advanced IP addressing and routing in implementing scalability for Cisco ISR routers connected to LANs and WANs. The exam covers topics on Advanced IP Addressing, Routing Principles, Multicast Routing, IPv6, Manipulating Routing Updates, Configuring basic BGP, Configuring EIGRP, OSPF, and IS-IS.

Course Objectives
This course will cover the following subjects:

- Identify Cisco Express Forwarding Concepts
- Explain General Network Challenges
- Describe IP Operations
- Explain TCP Operations
- Describe UDP Operations
- Recognize Proposed Changes to the Network
- Configure and Verify PPP
- Explain Frame Relay
- Identify, Configure, and Verify IPv4 addressing and subnetting
- Identify IPv6 Addressing and Subnetting
- Configure and Verify Static Routing
- Configure and Verify Default Routing
- Evaluate Routing Protocol Types
- Configure and Verify GRE
- Describe DMVPN
- Describe Easy Virtual Networking
- Describe IOS AAA Using Local Database
- Describe Device Security Using IOS AAA with TACACS+ and RADIUS
- Configure and Verify Device Access Control
- Configure and Verify Router Security Features
- Configure and Verify Device Management
- Configure and Verify SNMP
- Configure and Verify Device Access Control
- Configure and Verify Network Time Protocol
- Configure and Verify IPv4 and IPv6 DHCP
- Configure and Verify IPv4 Network Address Translation
- Describe IPv6 NAT
- Describe SLA Architecture
- Configure and Verify IP SLA
- Configure and Verify Tracking Objects
- Configure and Verify Cisco NetFlow
COURSE CTE220
Title: Implementing Cisco Switched Network (SWITCH)
Exam: 300-115

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises will certify that the successful candidate has important knowledge and skills necessary to implement scalable multilayer switched networks. The exam includes topics on Campus Networks, describing and implementing advanced Spanning Tree concepts, VLANs and Inter-VLAN routing, High Availability, Wireless Client Access, Access Layer Voice concepts, and minimizing service Loss and Data Theft in a Campus Network.

Course Objectives
This course will cover the following subjects:

- Configure and Verify Switch Administration
- Configure and Verify Layer 2 Protocols
- Configure and Verify VLANs
- Configure and Verify Trunking
- Configure and Verify EtherChannels
- Configure and Verify Spanning Tree
- Configure and Verify Other LAN Switching Technologies
- Describe Chassis Virtualization and Aggregation Technologies
- Configure and Verify Switch Security Features
- Describe Device Security Using Cisco IOS AA with TACACS+ and RADIUS
- Configure and Verify First-Hop Redundancy Protocols
COURSE CTE230
Title: Troubleshooting and Maintaining Cisco IP Networks (TSHOOT)
Exam: 300-135

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises will certify that the successful candidate has important knowledge and skills necessary to secure and expand the reach of an enterprise network to (1) plan and perform regular maintenance on complex enterprise routed and switched networks and (2) use technology-based practices and a systematic ITIL-compliant approach to perform network troubleshooting.

Course Objectives
This course will cover the following subjects:

- Use Cisco IOS Troubleshooting Tools
- Apply Troubleshooting methodologies
- Troubleshoot Switch Administration
- Troubleshoot Layer 2 Protocols
- Troubleshoot VLANs
- Troubleshoot Trunking
- Troubleshoot EtherChannels
- Troubleshoot Spanning Tree
- Troubleshoot other LAN Switching Technologies
- Troubleshoot Chassis Virtualization and Aggregation Technologies
- Troubleshoot IPv4 Addressing and Subnetting
- Troubleshoot IPv6 Addressing and Subnetting
- Troubleshoot Static Routing
- Troubleshoot Default Routing
- Troubleshoot Administrative Distance
- Troubleshoot GRE
- Troubleshoot IOS AAA using Local Database
- Troubleshoot Device Access Control
- Troubleshoot Router Security Features
- Troubleshoot Device Management
- Troubleshoot SNMP
- Troubleshoot Logging
- Troubleshoot Network Time Protocol
- Troubleshoot IPv4 and IPv6 DHCP
- Troubleshoot IPv4 Network Address Translation
- Troubleshoot SLA Architecture
- Troubleshoot Tracking Objects
COURSE CTE240
Title: Implementing Cisco Network Security (IINS)
Exam: 210-260

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is associated with the CCNA Security certification. This exam tests a candidate’s knowledge of securing Cisco routers and switches and their associated networks. It leads to validated skills for installation, troubleshooting and monitoring of network devices to maintain integrity, confidentiality and availability of data and devices and develops competency in the technologies that Cisco uses in its security infrastructure.

Course Objectives
This course will cover the following subjects:

- Common Security Principals
- Common Security Treats
- Cryptography Concepts
- Describe Network Topologies
- Secure Management
- AAA Concepts
- 802.1X Authentication
- BYOD
- VPN Concepts
- Remote Access VPN
- Site to Site VPN
- Security on Cisco Routers
- Securing Routing Protocols
- Securing the Control Plane
- Common Layer to Attacks
- Mitigation Procedures
- VLAN security
- Describe Operational Strengths and weaknesses of the Different Firewall Technologies
- Compare Stateful vs. Stateless Firewalls
- Implement NAT on Cisco ASA 9.x
- Implement Zone-Based Firewall
- Firewall Features on the Cisco Adaptive Security Appliance 9.x
- Describe IPS Deployment Considerations
- Describe IPS Technologies
- Describe Mitigation Technology for Email-Based Treats
- Describe Mitigation Technology for Web-Based Treats
- Describe Mitigation Technology for Endpoint Treats
COURSE CTE250
Title: Implementing Cisco Secure Access Solutions (SISAS)
Exam: 300-208

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is one of the exams associated with the CCNP Security certification. This course will cover the components and architecture of secure access, by utilizing 802.1X and Cisco TrustSec. It includes knowledge of Cisco Identity Services Engine (ISE) architecture, solution, and components as an overall network threat mitigation and endpoint control solutions. It also includes the fundamental concepts of bring your own device (BYOD) using posture and profiling services of ISE. Candidates can prepare for this exam by taking the Implementing Cisco Secure Access Solutions (SISAS) course.

Course Objectives
This course will cover the following subjects:

- Implement Device Administration
- Describe Identity Management
- Implement Wired/Wireless 802.1X
- Implement MAB
- Implement network authorization enforcement
- Implement Central Web Authentication
- Implement Profiling
- Implement Guest Services
- Implement Posture Services
- Implement BYOD Access
- Describe TrustSec Architecture
- Troubleshoot Identity Management Solutions
- Design Highly Secure Wireless Solution with ISE
- Device Administration
- Identity Management
- Profiling
- Guest Services
- Posturing Services
- BYOD Access
COURSE CTE260
Title: Implementing Cisco Edge Network Security Solutions (SENSS)
Exam: 300-206

Course Description
This instructor-led program with a combination of lecture and hands-on laboratory exercises is one of the exams associated with the CCNP Security. The Implementing Cisco Edge Network Security Course includes the knowledge of a network security engineer to configure and implement security on Cisco network perimeter edge devices such as a Cisco switch, Cisco router, and Cisco ASA firewall. This course focuses on the technologies used to strengthen security of a network perimeter such as Network Address Translation (NAT), ASA policy and application inspect, and a zone-based firewall on Cisco routers.

Course Objectives
This course will cover the following subjects:

- Implement Firewall
- Implement Layer 2 Security
- Configure Device Hardening Per Best Practices
- Implement SSHv2, HTTPS, and SNMPv3 Access on the Network Devices
- Implement RBAC on the ASA/IOS using CLI and ASDM
- Describe Cisco Prime Infrastructure
- Describe Cisco Security Manager
- Implement Device Managers
- Configure NetFlow Exporter on Cisco Routers, Switches, and ASA
- Implement SNMPv3
- Implement Logging on Cisco Routers, Switches, and ASA Using Cisco Best Practices
- Implement NTP with Authentication on Cisco Routers, Switches, and ASA
- Describe CDP, DNS, SCP, SFTP, and DHCP
- Analyze Packet Tracer on the Fire Using CLI/ASDM
- Configure and Analyze Packet Capture Using CLI/ASDM
- Analyze Syslog Events Generated From ASA
- Design a Firewall Solution
- Layer 2 Security Solutions
- Describe Security Operations Management Architectures
- Describe Data Center Security Components and Considerations
- Describe Common IPv6 Security Considerations
COURSE CTE270
Title: Implementing Cisco BGP and MPLS

Course Description
BCG is the protocol which is used to make core routing decisions on the Internet; it involves a table of IP networks or "prefixes" which designate network reachability among autonomous systems (AS). BGP is a path vector protocol or a variant of a Distance-vector routing protocol. BGP does not involve traditional Interior Gateway Protocol (IGP) metrics, but routing decisions are made based on path, network policies and/or rule-sets. For this reason, it is more appropriately termed a reachability protocol rather than routing protocol. BGP was created to replace the Exterior Gateway Protocol (EGP) to allow fully decentralized routing in order to transition from the core ARPAnet model to a decentralized system that included the NSFNET backbone and its associated regional networks. This allowed the Internet to become a truly decentralized system.

MPLS is a highly scalable, protocol agnostic, data-carrying mechanism. In an MPLS network, data packets are assigned labels. Packet-forwarding decisions are made solely on the contents of this label, without the need to examine the packet itself. This allows one to create end-to-end circuits across any type of transport medium, using any protocol. The primary benefit is to eliminate dependence on a particular OSI model data link layer technology, such as Asynchronous (ATM), Frame Relay, Synchronous Optical Networking (SONET) or Ethernet, and eliminate the need for multiple layer-2 networks to satisfy different types of traffic. MPLS belongs to the family of packet-switched networks.

Course Objectives
This course will cover the following subjects:

- Understanding BGP Building Blocks
- Comparing the Control Plane and Forwarding Plane.
- BGP Processes and Memory Use.
- BGP Path Attributes.
- Memory Use for IP CEF.
- Tuning BGP Performance
- TCP Protocol Considerations
- Path MTU Discovery, Queue Optimization
- Packet Reception Process. Hold Queue Optimization
- Effective BGP Policy Control
- How to Use Regular Expressions in Cisco IOS Software
- Filter Lists for Enforcing BGP Policies. Prefix Lists
- DESIGNING BGP ENTERPRISE NETWORKS
- Enterprise BGP Core Network Design
- Internet Connectivity for Enterprise Networks
- DESIGNING BGP SERVICE PROVIDER NETWORKS
- Scalable iBGP Design and Implementation Guidelines
- Route Reflection and Confederation Migration Strategies
- Service Provider Architecture
- General ISP Network Architecture
- Interior Gateway Protocol Layout
- The Aggregation Layer, Network Addressing Methodology, Loopback Addressing.
- IMPLEMENTING BGP MULTIPROTOCOL EXTENSIONS
- Multiprotocol BGP and MPLS VPN
- Route Distinguisher and VPN-IPv4 Address
- Understanding MPLS Fundamentals. MPLS Labels
- Multiprotocol BGP and Interdomain Multicast
- Multicast Distribution Trees
- Multiprotocol BGP Support for IPv
- IPv6 Enhancements, Expanded Addressing Capabilities, Autoconfiguration Capabilities
- MP-BGP Extensions for IPv6 NLRI, Dual-Stack Deployment, MP-BGP for IPv6 Deployment Considerations
- Configuring MP-BGP for IPv6, BGP Address Family Configuration, Injecting IPv6 Prefixes into BGP
- Security Enhancements
- QoS Capabilities, IPv6 Addressing
- Anycast Address Functionality
- Aggregatable Global Unicast Addresses
- MP-BGP Extensions for IPv6 NLRI
- Multiprotocol BGP Extensions for CLNS Support
- Matrix of BGP Features and Cisco IOS Software Releases
- MPLS VPN Architecture Overview
- MPLS VPN Terminology
- Connection-Oriented VPNs
- Connectionless VPNs
- MPLS-Based VPNs
- New MPLS VPN Developments
- Advanced PE-CE Connectivity
- Remote Access to an MPLS VPN
- Providing Dial-In Access to an MPLS VPN
- Providing Dial-Out Access via LSDO
- Providing Dial-Out Backup for MPLS VPN Access
- Providing DSL Access to an MPLS VPN
- Advanced features of MPLS VPN Remote Access
- PE-CE Routing Protocol Enhancements and Advanced Features
- PE-CE Connectivity: OSPF
- PE-CE Connectivity: Integrated IS-IS
- PE-CE Connectivity: EIGRP
- Virtual Router Connectivity
- Configuring Virtual Routers on CE Routers
- VRF Selection based on Source IP Address
- Performing NAT in a Virtual Router Environment
- Protecting MPLS-VPN Backbone
- Inherent Security Capabilities
- Neighbor Authentication
- CE-to-CE Authentication
- PE to CE Circuits
- Large-Scale Routing and Multiple Service Provider Connectivity
- Carrier Backbone Connectivity
- Label Distribution Protocols on PE-CE Links
- BCP-4 Between PE/CE Routers
- Hierarchical VPNs: Carrier’s Carrier MPLS VPNs
- Multicast VPN
- Introduction to IP Multicast
- Enterprise Multicast in a Service Provider Environment
- MDTs
- IP Version 6 Transport Across an MPLS Backbone
- IPv6 Business Drivers
- Deployment of IPv6 in Existing Networks
- 6PE Operation and Configuration
- Introduction to Troubleshooting of MPLS-Based Solutions
- MPLS Control Panel Troubleshooting
- MPLS Data Plane Troubleshooting
- MPLS VPN Troubleshooting
## 2017 – 2018 Academic Calendar

**Administrative Hours:** Monday – Friday 10:00 AM to 02:00 PM PST

**Academic Hours:** Monday – Thursday 06:30 PM to 10:30 PM PST
Saturday – Sunday 08:00 AM to 05:00 PM PST

### 2017 Winter Quarter:
- Monday January 09 Term Begins
- Sunday April 02 Term Ends
- *April 03 - April 09 Administrative Week (School Closed)*

### 2017 Spring Quarter:
- Monday April 10 Term Begins
- Monday May 29 Memorial Day
- Sunday July 02 Term Ends
- *July 03 - July 09 Administrative Week (School Closed)*

### 2017 Summer Quarter:
- Monday July 10 Term Begins
- Monday September 04 Labor Day
- Sunday October 01 Term Ends
- *October 02 - October 08 Administrative Week (School Closed)*

### 2017 Fall Quarter:
- Monday October 09 Term Begins
- Thursday November 23 Thanksgiving & Monday December 25 Christmas Day
- Sunday December 31 Term Ends
- *December 29 – January 04 Holidays (School Closed)*

### 2018 Winter Quarter:
- Monday January 08 Term Begins
- Sunday April 01 Term Ends
- *April 02 - April 08 Administrative Week (School Closed)*

### 2018 Spring Quarter:
- Monday April 09 Term Begins
- Monday May 28 Memorial Day
- Sunday July 01 Term Ends
- *July 02 - July 08 Administrative Week (School Closed)*

### 2018 Summer Quarter:
- Monday July 09 Term Begins
- Sunday September 30 Term Ends
- *October 01 - October 07 Administrative Week (School Closed)*

### 2018 Fall Quarter:
- Monday October 08 Term Begins
- Thursday November 22 Thanksgiving
- Sunday December 30 Term Ends
- *December 26 – January 08 Holidays (School Closed)*

*The school reserves the right to cancel a class due to insufficient enrollment.*