

Date: 9/25/2015

Non-Credit New Course Form

Initiator: Denise Kingman, David Raymond

PIMA COMMUNITY COLLEGE

mpus: Community

Effective Term: 201600

Subject/Course: AV 180

Aviation Technology

Full Course Title: General CFR 14 Part 65 Maintenance Review

60 chars max

Course Title: General CFR 14 Part 65

30 chars max

Classification: W

Workforce Response

Description:

Review of the General CFR 14 Part 65 testing topics required for licensure attainment. Includes nine interrelated module topics covering basic electricity, aircraft drawings, weight and balance, fluid lines and fittings, materials and processes, ground operation and servicing, mathematics, maintenance forms and records, and basic physics. Also includes cleaning and corrosion control, maintenance publications, and mechanic privileges and limitations. Each module has key areas of concentration for general aviation mechanics. Information: This course has an option to test out of any individual module by scoring eighty percent or greater. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

Prerequisite:

Corequisite:

Recommendation:

College: TM Transportation & Machine Tech
Division: ENTC Engineering and Technologies
Dept: AVM Aviation Technology
Status: A Active
Approval: C Community Ed. Approval
CIP:
PreqWaiv:

	Low	Or/To	High
Other:	1.00	to	999.00
Contact:	1.00	to	999.00

☐ Continuing Ed
☐ Tuition Waiver
☒ Additional Fees
☐ CAPP Areas for Prerequisites

Repeat Information

Limit: 98 Max Hours:

Repeat Status

Course Level: NC Non Credit

CEU

Grade Mode: N No Grading (Non-Credit)

Default: D Default

Schedule Type: C Combined lecture/lab

(Director/Coordinator)

DATE

(Campus Dean)

DATE

(Vice President of Instruction)

DATE

Description:

Review of the General CFR 14 Part 65 testing topics required for licensure attainment. Includes nine interrelated module topics covering basic electricity, aircraft drawings, weight and balance, fluid lines and fittings, materials and processes, ground operation and servicing, mathematics, maintenance forms and records, and basic physics. Also includes cleaning and corrosion control, maintenance publications, and mechanic privileges and limitations. Each module has key areas of concentration for general aviation mechanics.

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Date: 9/25/2015

Non-Credit New Course Form

Initiator: Denise Kingman, David Raymond

PIMA COMMUNITY COLLEGE

Campus: Community

Effective Term: 201600

Subject/Course: AV 181

Aviation Technology

Full Course Title: Airframe CFR 14 Part 65 Maintenance Review

50 chars max

Course Title: Airframe CFR 14 Part 65

30 chars max

Classification: W

Workforce Response

Description: Review of the Airframe CFR 14 Part 65 testing topics required for licensure attainment. Includes ten module topics covering wood structure, aircraft covering and finishes, sheet metal and non-metallic structures (composites), assembly and rigging, airframe inspection, hydraulic and pneumatic power systems, cabin atmosphere control systems, aircraft fuel and electrical systems, and ice and rain control systems. Also includes fire protection systems, welding, aircraft instrument systems, communication and navigation systems, and position and warning systems. Each module has key areas of concentration for airframe aviation mechanics. Information: This course has an option to test out of any individual module by scoring eighty percent or greater. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

Prerequisite:

Corequisite:

Recommendation:

College: TM Transportation & Machine Tech.
Division: ENTC Engineering and Technologies
Dept: AVM Aviation Technology
Status: A Active
Approval: C Community Ed Approval
CIP:
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Low Or/To High

Other: 1.00 to 999.00
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Grade Mode: N No Grading (Non-Credit)

Default: D Default

Schedule Type: C Combined lecture/lab

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DATE

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(Vice President of Instruction)

DATE

Description:

Review of the Airframe CFR 14 Part 65 testing topics required for licensure attainment. Includes ten module topics covering wood structure, aircraft covering and finishes, sheet metal and non-metallic structures (composites), assembly and rigging, airframe inspection, hydraulic and pneumatic power systems, cabin atmosphere control systems, aircraft fuel and electrical systems, and ice and rain control systems. Also includes fire protection systems, welding, aircraft instrument systems, communication and navigation systems, and position and warning systems. Each module has key areas of concentration for airframe aviation mechanics.

Information:

This course has an option to test out of any individual module by scoring eighty percent or greater. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

Date: 9/25/2015

Non-Credit New Course Form

Initiator: Denise Kingman, David Raymond

PIMA COMMUNITY COLLEGE

Campus: Community

Effective Term: 201600

Subject/Course: AV 182

Aviation Technology

Full Course Title: Powerplant CFR 14 Part 65 Maintenance Review

60 chars max

Course Title: Powerplant CFR 14 Part 65

30 chars max

Classification: W

Workforce Response

Description: Review of the Powerplant CFR 14 Part 65 testing topics required for licensure attainment. Includes eight interrelated module topics covering reciprocating engines, lubrication systems, turbine engines, engine inspection, engine instrument and electrical systems, ignition and starting systems, fuel metering systems, induction and engine airflow systems, engine cooling systems, and propellers. Also includes turbine powered auxiliary power units, engine exhaust and reverser systems, turbine engine lubrication systems, engine fire protection systems and engine fuel systems. Each module has key areas of concentration for powerplant aviation mechanics. Information: This course has an option to test out of any individual module by scoring eighty percent or greater. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

Prerequisite:

Corequisite:

Recommendation:

College: TM Transportation & Machine Tech
Division: ENTC Engineering and Technologies
Dept: AVM Aviation Technology
Status: A Active
Approval: C Community Ed. Approval
CIP:
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	Low	Or/To	High
Other:	1.00	to	999.00
Contact:	1.00	to	999.00

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☒ Additional Fees
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----- Repeat Information -----
Limit: 98 Max Hours:
Repeat Status

Course Level: NC Non Credit
Grade Mode: N No Grading (Non-Credit)
Schedule Type: C Combined lecture/lab

CEU
Default: D Default

(Director/Coordinator)

DATE

(Campus Dean)

DATE

(Vice President of Instruction)

DATE

Description:

Review of the Powerplant CFR 14 Part 65 testing topics required for licensure attainment. Includes eight interrelated module topics covering reciprocating engines, lubrication systems, turbine engines, engine inspection, engine instrument and electrical systems, ignition and starting systems, fuel metering systems, induction and engine airflow systems, engine cooling systems, and propellers. Also includes turbine powered auxiliary power units, engine exhaust and reverser systems, turbine engine lubrication systems, engine fire protection systems and engine fuel systems. Each module has key areas of concentration for powerplant aviation mechanics.

Information:

This course has an option to test out of any individual module by scoring eighty percent or greater. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.



Pima Community College

Course Syllabus

Campus/Center: Aviation Technology Center

Room Number: 124

Course Number: BTN 602 Course Title: NC3 Multimeter CRN: 60504

Course Description: Introduction to the fundamental knowledge and skill requirements of multimeter reading and usage successfully and repeatedly. Course includes multimeter usage, functional understanding, reading consistency, wave function generation - measuring, and standard practices. Proper use of digital multimeters to include measuring ohms, amps, and voltage.

Information: Successful completion of pre and post course tests will result in industry recognized SnapOn / NC3 certificate of completion.

Course Prerequisites: Pre-Registration enrollment in NC3 data base

Course Co-requisites: Registration with AAMMP Up Grant

Required Textbook(s): course materials provided

Other Course Materials: access to a computer that goes online

MyPima.pima.edu – MyPima is a course tool used as means of communication and/or for accepting course work. Your instructor will guide you in how it may be used in your course. Through MyPima you can also register and pay for classes, check your financial aid, access your student email, view your schedule, and read college-wide announcements.

MyPima also provides access to your online courses by linking to D2L, the College online learning system. You will use D2L to access your online course material, submit assignments, access grades and communicate with your instructors and classmates.

Instructor: David Raymond

Start Date: 08/17/2015 Monday

Office Location: DV-ATC 105

End Date: 08/17/2015 Monday

Office Hours: One hour before class starts

Class Meeting Days: Monday (only)

Instructor Phone: 206-5925

Class Meeting Time: 4 - 9:00PM

Instructor Email: dramond@pima.edu

Final Exam Date: 08/17/2015

Student Withdrawal Deadline: 08/17/2015

Technical Support Phone: Yvette Rodriguez 206-3932 / 206-4600

Supervisor Phone: Grant MGR. Denise Kingman 206-6365 / VPI Ted Roush 206-5098

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Describe the effects of measuring properly and safely
2. Identify the operational parts of a multimeter
3. Discuss differences in measuring amps, volts, and ohms
4. Identify the differences in variations of signal generation
5. Describe the complications of inappropriate scale readings
6. Discuss the benefits and drawbacks of using automatic functions
7. Identify displayed ranges by indicated symbology
8. Describe the differences in auto ranging features
9. Identify two & four cycle settings and their benefits and applications
10. Describe where to measure constants amongst variations in patterns
11. Discuss ISO, ASTM, and SAE requirements for multimeter scales, settings
12. Discuss history of the multimeter
13. Discuss the evolution of the multimeter
14. Identify scale settings by indicated wave types
15. Discuss multimeter terminology
16. Identify correct placement of test leads
17. Describe how to use auto ranging functions
18. Discuss the differences in troubleshooting possibilities
19. Discuss the ability of the mechanic to use the multimeter in variant applications and environments
20. Identify issues stemming from broken the leads and bad fuses

Academic Integrity

All PCC students are considered to be responsible individuals and are accountable for their own behavior. The College expects students to obey local, state and federal laws, and to follow the Student Code of Conduct. PCC has zero tolerance toward student acts of plagiarism.

Plagiarism, as defined in the Student Code of Conduct, "includes representing the work of another person as one's own, including information downloaded from the Internet. The use of another person's words, ideas, or information without proper acknowledgment also constitutes plagiarism." The Student Code of Conduct is specific with regard to the academic ethics sanctions for plagiarism: www.pima.edu/studentserv/studentcode.

Student Official Withdrawal from Class

A student may withdraw him/herself from the class by the Student Withdrawal Deadline listed above and a grade of 'W' will be recorded on the transcript. It is strongly recommended that you speak with faculty and a financial aid staff member before deciding to withdraw. Visit <http://www.pima.edu/paying-for-school/financial-aid/managing-award/dropping-or->

withdrawing.html to determine how dropping or withdrawing from class may have a negative impact your Standards of Academic Progress, financial aid, and/or scholarships. Review the Standards of Academic Progress at <http://www.pima.edu/new-students/register-for-classes/academic-progress.html> to understand the criteria required for and consequences of official withdrawals.

Financial Aid, Veteran's Benefit, and other student Benefits (This Course is not eligible for these benefits)

Your financial aid, veteran's, and other benefits from PCC and external agencies are contingent on your participation, performance, and compliance with guidelines set by the College the benefit providers. Please see a student financial aid advisor, veteran's benefits advisor, or other agency advisor for information on your benefits, your status with those benefits, and other items of which you should be aware.

Attendance Requirements

Throughout the term, students must substantively participate in such a way as to ensure successful completion of the course by the end of the term (i.e. regularly submit assignments and continue to interact with other students and the course instructor). Students must complete at least one academic task per week/7-day period (including during the first 7 days of the course) that will serve as documented active participation. Faculty have the responsibility of noting whether the student is present or not using Attendance Tracker. Students who do not actively participate in the class by [Click here to enter a date](#), will be dropped from the class. This may result in adverse financial consequences such as a change in financial aid, veterans' benefits, and/or other benefits related to being a student. Examples of active participation include (but are not limited to):

- attending class during each scheduled face-to-face session
- participating in a class-related activity each week/7-day period such as attending a faculty-organized study session, working on course content in a supervised center, or meeting with the instructor face-to-face or online
- completing a class-related task such as an interactive tutorial or computer-assisted instructional activity
- completing an assessment during each week/7-day period; the assessment might address content that should have been learned to date or might be in the form of a progress self-assessment**
- posting academically-related communications regarding course content
- academically-participating in a discussion
- signing in via an Accutrack-type system for the on-site component in an on-campus (and possibly self-paced) class
- **note:** that simply logging on to D2L or other computer-based systems does not meet the federal guidelines for active participation

American Disabilities Act (ADA) Policy Statement

• PCC is committed to providing accommodations for qualified individuals with disabilities in a timely and effective manner. To request a reasonable accommodation, students must be registered with the campus Access and Disability Resources (ADR) office. Accommodations will be made based on eligibility determined by Access and Disability Resources. Services can be requested at any time during the semester. Requesting services well in advance will help to ensure that resources are available when needed. Please contact the ADR office at 206-6688 or ADRHlp@pima.edu.

General Campus Conduct

- Visitors are not allowed in class sessions or on field trips.
- Possession of drugs, alcohol or firearms are not allowed on college property per College policy.
- Smoking, e-cigarettes and soliciting are not allowed in classrooms. Smoking is only permitted in designated smoking areas.
- Any item that is used in a way that is disruptive to the classroom is not allowed. Such items may include cell phones, pagers and any other electronic devices that distract students.
- Animals are not allowed in the classroom as per SPG-3603/BA. Visit <https://www.pima.edu/about-pima/policies/standard-practice-guides/SPG-3603-BA.html>
- Students creating disturbances that interfere with the conduct of the class or the learning of others, violates the Student Code of Conduct. Students will be referred to an administrator.
- Disruptive behavior will not be tolerated and can be cause for being dropped from the class. Disruptive behavior disrupts the learning process. Examples of disruptive behavior can be inappropriate talking, arriving late or leaving early, sleeping in class, etc.

Student Resources

Learning Centers (tutoring): See instructor for schedule of tutors

Library: Open access to NC3 course materials (electronically)

Testing and Assessment Centers: Not used for this course

Computer Commons (Academic Computing): Tech Library to be used on location

Course Grade Determination: Automated, on NC3 website Course will be pass or fail. You will be given three attempts to pass the course final test. Failure upon the third time will result in failure of the course.

Course Policies and Procedures: **THIS is not an FAA part 147 recognized or required course. Successful completion will result in NC3 certification in Multimeter applications.**



Pima Community College

Course Syllabus

Campus/Center: Aviation Technology Center

Room Number: 124

Course Number: BTN 601

Course Title: NC3 Mechanical Torque

CRN: 60523

Course Description: Introduction to the fundamental knowledge and skill requirements of applying torque successfully and repeatedly. Course includes fastener usage, thread sizing, fastener types, material compositions, and finishes. Proper use of mechanical and digital torque devices to include handling, storage, selection and environmental concerns.

Information: Successful completion of pre and post course tests will result in industry recognized SnapOn / NC3 certificate of completion.

Course Prerequisites: Pre-Registration enrollment in NC3 data base

Course Co-requisites: Registration with AAMMP Up Grant

Required Textbook(s): course materials provided

Other Course Materials: access to a computer that goes online

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Instructor: David Raymond

Start Date: 08/11/2015 Tuesday

Office Location: DV-ATC 105

End Date: 08/14/2015 Friday

Office Hours: One hour before class starts

Class Meeting Days: Tue. to Friday

Instructor Phone: 206-5925

Class Meeting Time: 12 - 5:00PM

Instructor Email: draymond@pima.edu

Final Exam Date: 08/14/2015

Student Withdrawal Deadline: 08/11/2015

Technical Support Phone: Yvette Rodriguez 206-3932 / 206-4600

Supervisor Phone: Denise Kingman 206-6365 / Ted Roush 206-5098

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Describe the effects of torque application properly and safely
2. Identify the operational parts of a torque wrench
3. Discuss thread patterns
4. Identify the differences between thread types
5. Describe the complications of inappropriate thread pairing
6. Discuss the benefits and drawbacks of using thread compounds
7. Identify classes of hardware by thread patterns
8. Describe the differences in thread locking compounds
9. Identify self-locking hardware benefits and applications
10. Describe where to measure thread pitch amongst variations in patterns
11. Discuss ISO, ASTM, and SAE requirements for hardware threads
12. Discuss history of fasteners
13. Discuss the evolution of thread patterns
14. Identify angular variations in pitch patterns
15. Discuss thread terminology
16. Identify coarse and fine thread pattern category fasteners by pitch
17. Describe advantages of threads categories
18. Discuss the differences in elasticity and plasticity when torquing a fastener
19. Discuss the variations amongst tensile, shear, load, torsional, fatigue, hardness, ductility, and toughness strengths of hardware
20. Identify hardware grade and class by markings and finishes

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- completing a class-related task such as an interactive tutorial or computer-assisted instructional activity
- completing an assessment during each week/7-day period; the assessment might address content that should have been learned to date or might be in the form of a progress self-assessment**
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- academically-participating in a discussion
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Course Grade Determination: Automated. on NC3 website Course will be pass or fail. You will be given three attempts to pass the course final test. Failure upon the third time will result in failure of the course.

Course Policies and Procedures: **THIS is not an FAA part 147 recognized or required course. Successful completion will result in NC3 certification in Torque Theory and application.**

Course Objectives	Student Learning Outcomes Statement
Take the Pre-course test	Context: Student knowledge pre-course levels are established to determine appropriateness of course materials Objective: Demonstrate previous exposures to subject matter Traits: Test results will indicate level of instruction for the remainder of the course
Perform Student Project worksheet requirements for course.	Context: Given an in-class assignment on proper torqueing procedures Objective: Demonstrate proper handling of torqueing instruments Traits: Provides cooperative, collaborative, and reviews project technical data to produce a properly torqued Bolt, Nut, and washer combination.
Familiarize Student with various anti-seizure compounds as well as thread locking compounds.	Context: Given an in-class assignment to use proper thread compounds Objective: Demonstrate proper understanding of thread locking and anti-seize compounds Traits: Reads and interprets student project work sheet, applies proper compound to threaded portions of hardware to gain desired results.
Familiarize Student with US and Metric Bolt sizing, Identification and Strength Categories.	Context: Given an in-class lecture on the similarities and differences amongst US and Metric hardware identification markings Objective: Demonstrate proper understanding of identification markings on hardware Traits: Reads and interprets student project work sheet, applies proper knowledge to discuss and recognize hardware by sight
Familiarize Student with US and Metric manufacturing standards	Context: Given an in-class lecture on the similarities and differences amongst US and Metric hardware standards Objective: Demonstrate proper understanding the manufacturing tolerances and standards between US and Metric standards Traits: Reads and interprets student project work sheet, applies skills to select and assemble proper hardware combinations
Familiarize Student with common failure modes for hardware	Context: Given an in-class lecture on effects of events leading up to premature failures of hardware Objective: Student is able to participate in course room discussions about previous exposures to corrosion and other environmental accelerators of failure modes Traits: Provides cooperative, collaborative, discussion on variations reasons properly torqued Bolt, Nut, and washer combinations that prematurely failed
Familiarize Student with effects of over tensioning hardware	Context: Given in-class materials and equipment to exceed yield strength of provided hardware Objective: Demonstrates hardware take beyond its pre-determined strengths will fail

	Traits: Reads and interprets student project work sheet, applies proper amounts of torque to hardware combination until failure occurs.
Student will take Post-Course Certification test	Context: Given in-class materials and exposures to prepare student for test Objective: Demonstrate set standards are met for subject knowledge Traits: Read and interprets questions and demonstrates ability to retrieve information presented in course room discussions

Torque Theory- is 40 hours in length (non-credit) and will cover:

- Standardized torquing of hardware.
- Thread compounds
- Hardware selection and identification
- Identify Stressors:
 - Environmental
 - Vibratory
 - Cyclic
 - Tension and shear loading

The prerequisite for this course is hand tool safety. There are pre- and post-course tests for certification. Students desiring to are required to register with AAMMP staff at

Date: 7/22/2015

Initiator: Denise Kingman

Non-Credit New Course Form

PIMA COMMUNITY COLLEGE

ampus: Community

Effective Term: 201600

Subject/Course: BT 601

Business and Technology

Full Course Title: NC3 Mechanical Torque

60 chars max

Course Title: NC3 Mechanical Torque

30 chars max

Classification: W Workforce Response

Description: Introduction to mechanical torquing. Includes standardized torquing of hardware, thread compounds, U.S. and metric hardware selection, and common torque stressors. Also includes safe use of tools and equipment common to torquing operations.

Prerequisite:

Corequisite:

Recommendation:

College: BT Design, Building, Maintenance
Division: ENTC Engineering and Technologies
Dept: BT Business and Technology
Status: A Active
Approval: I Business, Industry, Tech Approval
CIP:
PreqWaiv:

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☐ Continuing Ed
☐ Tuition Waiver
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☐ CAPP Areas for Prerequisites

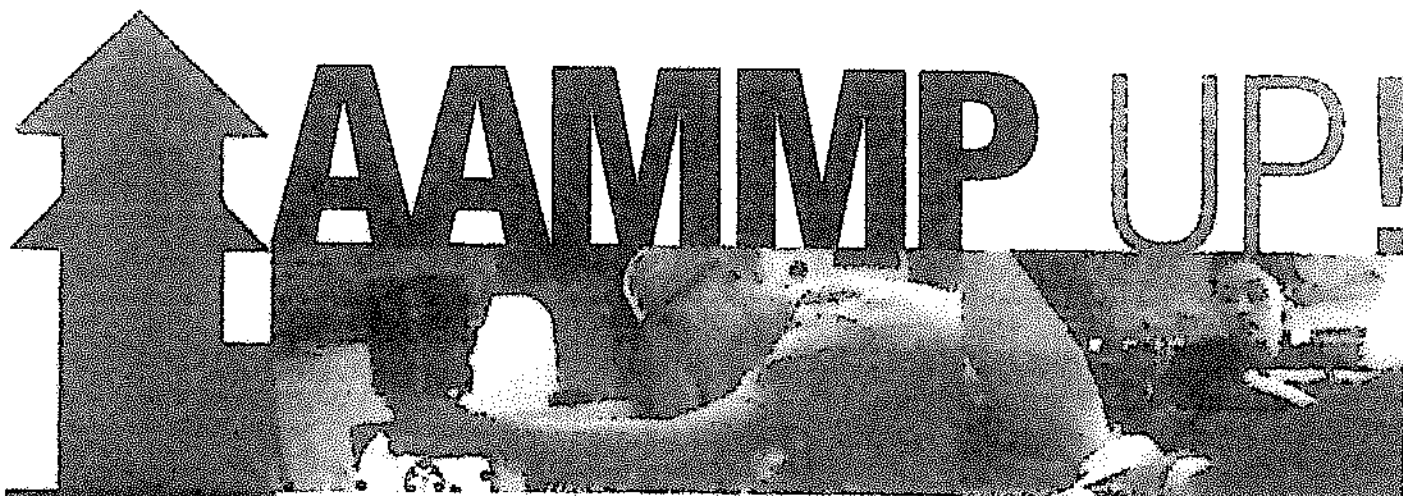
----- Repeat Information -----
Limit: 98 Max Hours:
Repeat Status

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Grade Mode:	N	No Grading (Non-Credit)	Default: D Default
Schedule Type:	L	Lecture	

(Director/Coordinator) DATE

(Campus Dean) DATE

(Vice President of Instruction) DATE



AAMMP Up your skills, change your world!
**ARIZONA AVIATION, MINING AND
 MANUFACTURING PROGRAM**

**Is offering the following NC3 certifications
 FREE for AAMMP UP participants!**

Torque: August 11th-14th, 2015 – 12:00pm-5:00pm

Meter: August 17th, 2015 – 12:00pm-5:00pm

**Mandatory Registration Orientation:
 Tuesday, August 4th, 2015 at 4:00pm**

**To register for your spot contact:
 AAMMP UP Advisor: Yvette Rodriguez
 206.3932 yvette.rodriquez@pima.edu**

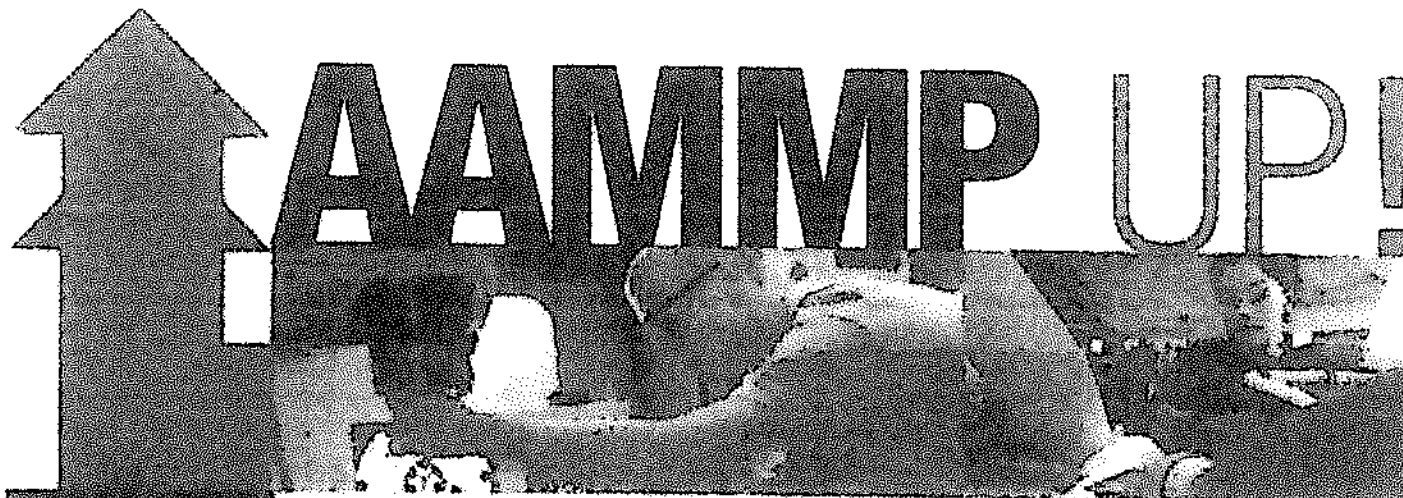
Only 20 seats available, so call today!

**For more information or to enroll, contact AAMMP Up Program Director
 Denise Kingman, dkingman1@pima.edu, (520) 206-6365**



PimaCommunityCollege

(520) 206-4500



AAMMP Up your skills, change your world!
**ARIZONA AVIATION, MINING AND
MANUFACTURING PROGRAM**

NC3 Certification

Meter course

August 17th

Hours: 12:00 p.m. – 5:00 p.m.

**Pima Community College
Aviation Technology Center
7211 S. Park Ave**

Room: 124

***For more information or to enroll, contact AAMMP Up Program Director
Denise Kingman, dkingman1@pima.edu, (520) 206-6365.***



PimaCommunityCollege

(520) 206-4500



AAMMP UP!



AAMMP Up your skills, change your world!
ARIZONA AVIATION, MINING AND
MANUFACTURING PROGRAM

NC3 Certification

Torque course

August 11th, 12th, 13th, & 14th
Hours: 12:00 p.m. – 5:00 p.m.

Pima Community College
Aviation Technology Center
7211 S. Park Ave

Room: 124

For more information or to enroll, contact AAMMP Up Program Director
Denise Kingman, dkingman1@pima.edu, (520) 206-6365.

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PimaCommunityCollege

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Pima Community College District is governed by the elected Board of Directors. The Board of Directors is responsible for the overall management and operation of the college.

The college is an equal opportunity institution. It does not discriminate on the basis of race, sex, age, religion, or national origin. The college is also an affirmative action institution. It seeks to recruit and hire a diverse workforce and to provide a supportive environment for all students. The college is committed to the highest standards of academic excellence and to the development of its students as individuals and as members of the community.

Vice President of Instruction:

Dent.Chair/ Pro. Mar./Div D:

9/9/2015

[illegible]

Date: Sept 9, 2015 1527

Inactivated CRN: