

1. Assessment Plan - Four Column



PIE - Technology & Health: Aeronautics Unit

Narrative Reporting Year

2017-18

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External Conditions, Trends, or Impacts: 1. FAA Collegiate Training Initiative (AT-CTI Program, FAA air traffic control training)

The FAA AT-CTI Program was reinstated by Congress, and the FAA signed new partnership agreements with 30 colleges nationwide including Mt. SAC (January 2018). The FAA Controller Workforce Plan (2018-2028) states that the FAA will hire approximately 900 to 1400 new controllers a year for the next 10 years (only 14,000 controllers in the workforce). This fact benefits our students and it benefits Mt. SAC because of the strong hiring for a long period of time. This fact supports the department's request for an additional full-time faculty.

https://www.faa.gov/air_traffic/publications/controller_staffing/

2. Pilot Shortage Reaching Crisis

The crisis is real and airlines and the travel industry are being affected by the pilot shortage. All of the airlines are hiring and the companies are competing to capture pilots as they come up the ranks. Wages have doubled in some cases, and signing bonuses is becoming common.

Flight Instructors are being snatched up by the airlines at such an alarming rate that wages have doubled or tripled in some cases. A Northern California flight school is paying \$80 per hour in order to attract and keep employees. All of this is good news for Mt. SAC students and for the Department. The jobs are there for our graduates and wages are going up because of the shortage.

"I've never seen the industry be at this level of pilot demand," said Kenneth P. Byrnes, the chairman of the flight training department at Embry-Riddle Aeronautical University's campus in Daytona Beach, Fla.

<https://www.nytimes.com/2018/05/27/business/airlines-jobs-aspiring-pilots.html>

The department is experiencing growth in our Commercial Flight program. All of this news supports the department's request for an additional full-time faculty member.

3. Unmanned Aircraft Systems - UAS, Drones

The UAS Industry is exploding like the internet did with the "dot com" industry. At the recent AUVSI Xponential Conference, in Denver, hundreds of companies showcased their wares from small start-ups to billion dollar companies such as Intel. ICAO and the FAA indicated that standards are being created, and a new phase of regulations are coming soon. Attendance to the annual drone conference is imperative and Mt. SAC financial support of this initiative is vital. Also, the new UAS program is currently being supported by Strong Workforce funding but eventually the college will have to fund the program fully on its own to include faculty, support staff, and instructional equipment.

Internal Conditions, Trends, or Impacts : 1. Portable Modular Classroom/Office: The program needs a portable modular building at Brackett Airport for instruction, office, and flight simulation. The current facility is inadequate and has no quiet space for FAA flight testing, no clean air-conditioned space for flight simulators, and inadequate office space for one-on-one instruction.

2. Cessna 172 Training Aircraft – our Advisory Committee approved the request to purchase 1 new and 1 used Cessna 172 for basic and advanced training. Factory new aircraft are equipped with Glass Cockpit Technology similar to that in airliners and corporate jets. The only access to this state-of-the-art technology the college has at this time is through simulation. Student access to this type of training is valued by employers. The addition of a used Cessna 172 will allow student to progress through training more rapidly and reduce overall cost of training because of fewer canceled flights. The only on-going costs would include insurance (\$10,000 annually) and maintenance (\$10,000 annually). Advisory Committee supports the purchase of a multi-engine aircraft, a pilot rating required for professional pilots, when the program can support its use.

3. Flight Simulator Program: Our Advisory Committee approved the request to purchase two flight simulators to replace outdated technology.

4. FAA Aircraft Dispatcher Certificate: The program needs iPads for aviation weather and flight planning. This is an FAA driven initiative as they have indicated they are switching from paper to electronic charts.

5. Full-time Faculty Request, and Adjunct Faculty Pool initiatives: The Department believes that an additional full-time faculty is needed at this time because of a several factors: 1) commercial flight program is growing and the industry has unprecedented need for pilots; 2) the FAA reinstated the AT-CTI Program for air traffic controllers, and the program needs to prepare for an influx of students; 3) the new FAA Aircraft Dispatcher program is new and needs full-time expertise; 4) the department is developing new training programs for unmanned aerial systems (UAS) and we expect the commercial flight program will expand with an auxiliary training program in UAS. In addition, the program is actively searching for adjunct professors to support these initiatives.

6. The Aeronautics Department supports the Technology & Health initiative to hire an Assistant Coordinator for Special Projects (Rachel Brown is the Coordinator, Special Projects).

Critical Decisions Made by Unit: 1. Faculty and Advisory Committee Members discussed and approved hiring a full-time faculty member for Aeronautics.

2. Faculty and Advisory Committee Members discussed the need to push and keep Mt. SAC on the forefront of technology as it relates to pilot training, air traffic control, aircraft dispatching, and unmanned aircraft piloting.

Notable Achievements for Theme A: To Advance Academic Excellence and Student Achievement: 1) Bronze Award Strong Workforce Stars

“Strong Workforce Stars is a new recognition for career education programs at California Community Colleges whose graduates have shown significant employment-related gains, including increased earnings, attainment of a living wage, and employment that closely matches a student’s field of study.

2) FAA AT-CTI Program Renewed

“January 2018 Mt. SAC signed a new partnership agreement with the FAA for the Collegiate Training Initiative for air traffic controllers. Mt. SAC become one of only thirty colleges nationwide to receive a partnership agreement for this training. Graduates receive preference in the hiring process and fifty-percent of the available jobs are reserved for CTI graduates and military veterans. Students and faculty are excited to see the FAA develop and renew this third generation of the CTI Program.

3) Unmanned Aircraft Systems (Drones, UAS) Courses Approved

New courses, a Certificate, and a new Degree program were approved by the Chancellor's office May 2018.

Students will receive academic and hands-on flight training on multi-rotor and fixed wing drones.

4) Introduction to Aviation Careers Course Approved

This new course was approved by the Chancellor's office May 2018. This new course is significant for two reasons: 1) removes some of the common barriers and fears new students have when considering aviation careers; 2) course is designed to be completed during regular semesters or summer/intercessions increasing students success and student access to training.

5) FAA Aircraft Dispatcher Training Program (ADX)

This exclusive training program had another great year of successful students accomplishments. Professor Judith Fleming reported a 100% pass rate on students becoming FAA Certified Aircraft Dispatchers. Many of the graduates are now working in the airlines industry. Some from last years class have been hired by large airlines.

Contributors to the Report: Robert Rogus

Linda Rogus

<i>Unit Goals</i>	<i>Resources Needed</i>	<i>Where We Make an Impact: Closing the Loop on Goals and Plans</i>
<p>Technology - Staying on the forefront of technology Status: Active Goal Year(s): 2016-17, 2018-19 Date Goal Entered (Optional): 09/01/2016</p>	<p>Full Funding Requested - Unmanned Aircraft Systems (UAS - drones) simulation and aircraft - Aeronautics Lead: Robert Rogus Type of Request: Facilities , Instructional Equipment, Instructional Supplies, Marketing, Professional Development Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18 % Completed: 50 This project has come under the Strong Workforce Initiative Program. Some of the equipment has been funded and some has been funded, but not available until July 2018 through June 2019. (05/07/2018)</p>
	<p>Full Funding Requested - Purchase new glass cockpit flight training aircraft Lead: Linda Rogus One-Time Funding Requested (if applicable): 475000 Type of Request: Instructional Equipment Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18 % Completed: 0 We have not been funded for this new airplane for training. We are still using airplanes from 1975-1978 that were purchased by the school. These airplanes, called legacy airplanes by the FAA, need to be replaced soon so students can learn in a modern industry standard aircraft. We are still turning away students from the flight training program due to lack of airplanes. (05/07/2018)</p>
	<p>Full Funding Requested - Audio visual equipment for Mt. SAC Hangar – Aeronautics Lead: Linda Rogus One-Time Funding Requested (if applicable): 25000 Type of Request: Non-Instructional Equipment</p>	<p>Reporting Year: 2017-18 % Completed: 0 The basic audio visual equipment at the Mt. SAC Hangar at Brackett Airport is still functioning. Replacement is a low priority as compared to other department needs. (05/07/2018)</p>

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Planning Unit Priority: Low
Full Funding Requested - Purchase one airplane engine simulator
Describe Plans & Activities
Supported: This is needed for the second classroom, 28B-103. This engine simulator is needed to show and explain engine parts, components, motion, and flow.
Lead: Linda Rogus
One-Time Funding Requested (if applicable): 16000
Type of Request: Instructional Equipment
Planning Unit Priority: High

Reporting Year: 2017-18
% Completed: 50
 One engine simulator was funded, delivered, and installed in classroom 107 during Fall 2017 Semester. The simulator received immediate use. The department is asking for one additional engine simulator for classroom 103 to replace an engine simulator from the 1970's. (03/08/2018)

Full Funding Requested - Purchase two full-motion flight simulators.
Describe Plans & Activities
Supported: The department advisory committee voted to purchase new technology in the full-motion simulators. One simulator is for single-pilot training for immediate training needs. The second full-motion simulator is for multi-crew flight training that will prepare students for employment after Mt. SAC. This is new technology since we had to remove three older simulators since they are no longer certified by the Federal Aviation Administration (FAA)
Lead: Linda Rogus
One-Time Funding Requested (if applicable): 195000
Type of Request: Instructional Equipment
Planning Unit Priority: High

Reporting Year: 2017-18
% Completed: 0
 After upgrading the new full motion simulator that was purchased in 2016 the department has been advised by the advisory committee that more full motion simulators are needed instead of the fixed simulators. One will be needed for a single crewmember full motion and one simulator will be needed for a multi-crewmember full motion simulator. (05/07/2018)

Full Funding Requested - Used

Reporting Year: 2017-18

<i>Unit Goals</i>	<i>Resources Needed</i>	<i>Where We Make an Impact: Closing the Loop on Goals and Plans</i>
	<p>aircraft for primary and instrument training</p> <p>Describe Plans & Activities</p> <p>Supported: The Aero department is growing in all programs (Commercial Flight, Aviation Science, Aircraft Dispatcher and our new program in Unmanned Aircraft during the fall 2018). More students enrolling in all programs are deciding they want to learn to fly to get more skills and be more employable so more aircraft are needed. The used aircraft will be built after 1998 to expand our fleet and to slow down the flight hours on the current airplane fleet and therefore, increase the longevity of the current fleet.</p> <p>Lead: Linda Rogus</p> <p>One-Time Funding Requested (if applicable): 175000</p> <p>Type of Request: Instructional Equipment</p> <p>Planning Unit Priority: High</p> <p>Full Funding Requested - Unmanned Aircraft (UAS) Netted Facility</p> <p>Describe Plans & Activities</p> <p>Supported: The college is located inside Brackett Airport's airspace. The location within 5 miles severely restricts drone flights at the college. Using a netted facility would allow unrestricted training and safe flying of drone technologies.</p> <p>The netted facility would be utilized by several departments that utilize drones (UAS) as part of their curriculum. Skilled craft-persons would also benefit by having a safe</p>	<p>% Completed: 0</p> <p>This used airplane purchase has not been funded. We are currently turning away 30-60 students per year since the current aircraft are over-utilized. A used airplane is cost effective, has a long life, and could immediately be utilized. (05/07/2018)</p>

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area to train employees. STEAM programs would benefit when using the area for special projects and hosting high-school partners.

This facility protects the college and minimizes risk in several ways: 1) FAA flight rules are moot inside a netted facility allowing day and night instruction; 2) Risk of damage to persons or property are minimized; 3) Risk of "fly-away" drones is eliminated

The facility should be a 300' by 120' drone cage (golf course height - 85') with a black net that would enclose the space. Two trailers would be located on the site to serve as office/meeting space. ADA compliant sidewalks, ramps, and lighting, will be installed.

Lead: Robert Rogus
One-Time Funding Requested (if applicable): 450000
Type of Request: Facilities
Planning Unit Priority: High

Access for Students - Support student access to department programs and services
Status: Active
Goal Year(s): 2016-17, 2018-19
Date Goal Entered (Optional): 09/01/2016

Full Funding Requested - Classroom chairs – Aeronautics
Describe Plans & Activities Supported: Classroom chairs have been replaced in 28B-107. We need to finish the replacement of chairs in 28B-103
Lead: Linda Rogus
One-Time Funding Requested (if applicable): 10000
Type of Request: Non-Instructional Equipment

Reporting Year: 2017-18
% Completed: 50
 The chairs in 28B-107 have been purchased and replaced. Thank you. Classroom 28B-103 have not been replaced. These chairs are greatly needed. (05/07/2018)

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	<p>Planning Unit Priority: High</p> <p>Full Funding Requested - Support for student tutors and simulator lab assistants - Aeronautics</p> <p>Lead: Linda Rogus</p> <p>One-Time Funding Requested (if applicable): 10000</p> <p>Type of Request: Staffing</p> <p>Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18</p> <p>% Completed: 0</p> <p>This is an urgent need. We have been funded through the Perkins grant for tutors for the last several years. We have lost our funding beginning fall 2018. We are the largest users of the Tech Ed. Resource Center (TERC) and have four days of coverage and about 30 hours per week during the primary semesters of fall and spring. We need the funding assured through the college since it is necessary for student success and getting our students through the aviation programs. (05/07/2018)</p>
	<p>Full Funding Requested - iPads for FAA Aircraft Dispatcher Certificate</p> <p>Describe Plans & Activities</p> <p>Supported: The FAA says they are switching from paper to electronic charts and weather for the FAA Aircraft Dispatcher training and testing. This request would be for a bank of iPad for student use during class, lab, and testing.</p> <p>Lead: Robert Rogus</p> <p>One-Time Funding Requested (if applicable): 12500</p> <p>Type of Request: Instructional Equipment</p> <p>Planning Unit Priority: High</p>	
<p>Flight Training Facility - Facility improvements that maximize student learning</p> <p>Status: Active</p> <p>Goal Year(s): 2016-17, 2018-19</p> <p>Date Goal Entered (Optional): 09/01/2016</p>	<p>Full Funding Requested - Increase maintenance cost for legacy aircraft, inspections & maintenance, FAA order- Aeronautics</p> <p>One-Time Funding Requested (if applicable): 10000</p> <p>Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18</p> <p>% Completed: 50</p> <p>We were awarded a one-time fund of \$5,000 this past year. Due to the new mandate by the Federal Aviation Administration (FAA) we must upgrade our avionics (radios) by 2020. We have been able to fund three of the airplanes so far, but we have four more to accomplish. Each airplane costs about \$8,000 each and one is significantly more. (05/07/2018)</p>
	<p>Full Funding Requested - Modular Building for College Aviation for</p>	<p>Reporting Year: 2017-18</p> <p>% Completed: 0</p>

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	<p>additional classroom space, quiet space for one-on-one instruction, and a climate controlled room for flight simulators.</p> <p>Describe Plans & Activities Supported: The current facility has no quiet space for instruction, nor does it have a dust-free climate controlled space to install flight simulators. The facility as it is today is a single room plus one office and a bathroom. This single room is shared by 6 instructors, plus students, and is also a reception area. The instructors are using the single storage closet as a quiet space for one-on-one instruction. This project was previously approved; then, cancelled because the lease ran only until year 2025. We are in the process of getting the lease extended to 2035.</p> <p>Lead: Linda Rogus</p> <p>One-Time Funding Requested (if applicable): 150000</p> <p>Type of Request: Facilities</p> <p>Planning Unit Priority: High</p>	<p>This project is outdated and closed- after analysis by facilities the project was not viable inside the existing hangar. (05/07/2018)</p>
<p>Faculty and Support Staff - Increase the effectiveness of department learning objectives and program initiatives</p> <p>Status: Active</p> <p>Goal Year(s): 2016-17, 2017-18, 2018-19, 2019-20, 2020-21</p> <p>Date Goal Entered (Optional): 05/31/2019</p>	<p>Full Funding Requested - Student Workers at the Mt. SAC flight training facility at Brackett Airport – Aeronautics</p> <p>One-Time Funding Requested (if applicable): 35000</p> <p>Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18</p> <p>% Completed: 0</p> <p>This request has been denied the last two years. The department will be looking into funding it ourselves to get started. (05/07/2018)</p>
	<p>Full Funding Requested - Hire an Aviation Maintenance Technician for the Mt. SAC flight training facility</p> <p>Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18</p> <p>% Completed: 0</p> <p>This request has not been funded yet as the department changed maintenance facilities since the closure of our original maintenance shop. This request is on hold. (05/07/2018)</p>

<i>Unit Goals</i>	<i>Resources Needed</i>	<i>Where We Make an Impact: Closing the Loop on Goals and Plans</i>
	<p>Full Funding Requested - Hire full-time professor of Aeronautics</p> <p>Advisory Committee cited the following rationale:</p> <ol style="list-style-type: none"> 1) unprecedented shortage of pilots 2) renewal of FAA CTI partnership agreement (Spring 2018) 3) growth of FAA Aircraft Dispatch program (Year 3) 4) start of Unmanned Aircraft Drone degree and certificate (Fall 2018) 5) popularity of SIU Partnership (on-campus aviation bachelor's degree) <p>Critical Decisions Made by Unit: 1. Faculty and Advisory Committee Members discussed and approved hiring of full-time faculty (February 2018).</p> <p>Lead: Linda Rogus/Robert Rogus Type of Request: Staffing Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18 % Completed: 0</p> <p>The Aero department will be requesting a full-time professor in the Fall 2018 time period. Our existing programs are growing and our new unmanned aircraft program will lead to growth. The request to hire was approved by our Advisory and the initiative is supported by full-time and adjunct-faculty. (05/07/2018)</p>
	<p>Full Funding Requested - Aviation Ambassadors, student hourly</p> <p>Describe Plans & Activities Supported: The department is requesting full funding of our Aviation Ambassador program which was previously funded through Perkins. The Aviation Ambassador program has been an extremely successful program visiting nearly 60 events over a two year period (high schools, Mt. SAC, and community events).</p> <p>Many of the student who were hired as ambassadors come from non-traditional and other special</p>	

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populations and have been positively impacted by working this job and representing Mt. SAC to the community. These students would be student hourly.
Lead: Linda Rogus
One-Time Funding Requested (if applicable): 5000
Type of Request: Staffing
Planning Unit Priority: High
Full Funding Requested - Part-time Career Specialist
Describe Plans & Activities
Supported: Specialist to assist with work experience placements and employer panels, career fairs, etc.
Lead: Sarah Plesetz
On-Going Funding Requested (if applicable): 55000
Type of Request: Staffing
Planning Unit Priority: High

Partnerships - Explore partnership opportunities
Status: Active
Goal Year(s): 2016-17, 2018-19
Date Goal Entered (Optional): 09/01/2016

Full Funding Requested - Travel funding - FAA AT-CTI Program
Describe Plans & Activities
Supported: The FAA renewed the AT-CTI Program January 2018 and participation in the yearly best-practices conference is a requirement of the program. We are requesting on-going funding for two faculty to attend the conference yearly.
Lead: Robert Rogus
On-Going Funding Requested (if applicable): 8000
Type of Request: Professional Development
Planning Unit Priority: High
No Funding Requested - Mt. SAC

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Foundation - Foundation Employee dedicated to serving Technology & Health Division

Describe Plans & Activities

Supported: Aeronautics department supports the Mt. SAC Foundation initiative of hiring a dedicated employee to serve the Technology and Health Division in support of fundraising and alumni initiatives. The Foundation asked for our department to include the request in our PIE to show program support of the Foundation initiative.

Lead: Linda Rogus

Type of Request: Staffing

Planning Unit Priority: High