

# 2003 EMPLOYER FEEDBACK SURVEY

## Embry-Riddle Aeronautical University

**DIRECTIONS:** For each question, completely fill in the oval that matches your response. Use ONLY blue or black ink, or a no. 2 pencil. All responses are confidential and will NOT be shared with your employee.

### YOU AND YOUR COMPANY

1. Approximately how many ERAU graduates do you know professionally?  
☐ 1    ☐ 2-5    ☐ 6-10    ☐ 11-50    ☐ Over 50
2. How many ERAU graduates do you currently supervise?  
☐ 1    ☐ 2-5    ☐ 6-10    ☐ 11-20    ☐ Over 20
3. Did you graduate from ERAU?  
☐ Yes    ☐ No
4. What is your level of involvement in the hiring of new workers at your current company?  
☐ Make Final Decision    ☐ Provide Input    ☐ No Involvement (skip to question #6)
5. What is your preference for hiring graduates?  
☐ Strong Preference for ERAU Graduates    ☐ Some Preference for ERAU Graduates    ☐ No Preference    ☐ Some Preference for Other Graduates    ☐ Strong Preference for Other Graduates

### THE ERAU GRADUATE

Consider the ERAU graduate listed on your cover letter when answering the following questions.

6. The education of the ERAU graduate meets our company's needs.  
☐ Strongly Agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly Disagree
7. Compared to graduates from other institutions, his/her knowledge and skill level is:  
☐ Much Higher    ☐ Somewhat Higher    ☐ Equivalent    ☐ Somewhat Lower    ☐ Much Lower
8. He/she is a valuable employee.  
☐ Strongly Agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly Disagree
9. He/she is a good candidate for promotion.  
☐ Strongly Agree    ☐ Agree    ☐ Neutral    ☐ Disagree    ☐ Strongly Disagree

10. For each general skill listed below, provide a response for:

Usefulness: How useful the skill is at the employee's position

Competence: The level of competence at the skill shown by this ERAU graduate vs. graduates from other institutions (leave Competence blank if you rate the skill as NOT USEFUL)

	USEFULNESS					COMPETENCE									
						THIS ERAU GRADUATE					GRADUATES FROM OTHER INSTITUTIONS				
	Very Useful	Somewhat Useful	Not Useful			Very Good	Good	Average	Poor	Very Poor	Very Good	Good	Average	Poor	Very Poor
Quantitative/mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic PC software (word processing, spreadsheets, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing skills (non-technical)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical writing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speaking before an audience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Applied research (information gathering and analysis)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critical thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Independent work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning, scheduling, and carrying out projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Defining and solving problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working in groups/teams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leading/guiding others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsible actions and decision making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding other people and other points of view	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Political and economic awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



11. Locate the separate blue flyer containing degree-specific skills taught in the ERAU graduate's degree program. If you do not have a separate blue flyer, please skip to question #12. For each skill listed, provide a response for Usefulness and Competence as in the previous question. Remember to leave Competence blank if you rate the skill as NOT USEFUL.

USEFULNESS				COMPETENCE											
				THIS ERAU GRADUATE					GRADUATES FROM OTHER INSTITUTIONS						
				Very Poor Poor Average Good Very Good					Very Poor Poor Average Good Very Good						
A	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
B	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
C	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
D	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
E	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
F	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
G	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
H	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
I	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
J	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
K	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
L	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
M	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
N	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
O	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
P	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
Q	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
R	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1
S	3	2	1	.....	5	4	3	2	1	.....	5	4	3	2	1

12. Considering this ERAU graduate, what strengths do you perceive in his/her degree program?

13. Considering this ERAU graduate, what weaknesses do you perceive in his/her degree program?

14. Additional comments that may assist ERAU in evaluating its degree programs:

**THANK YOU FOR YOUR PARTICIPATION! PLEASE USE THE POSTAGE-PAID ENVELOPE PROVIDED AND RETURN SURVEY BY MARCH 17, 2003 TO:**

Embry-Riddle Aeronautical University  
Office of Institutional Research  
600 S. Clyde Morris Boulevard  
Daytona Beach, FL 32114-3900

**AS AIRCRAFT MAINTENANCE  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. General knowledge of maintenance operations and safety
- B. Electrical and electronic systems operations
- C. Skills in metallic and non-metallic structures and repair
- D. Understanding of a/c systems (hydraulics, environmental, etc.)
- E. Knowledge of reciprocating and turbine engines and their respective systems
- F. Knowledge and ability to work with technical publications and manuals
- G. Skills in troubleshooting
- H. Use of precision measuring instruments and basic and special tools
- I. Understanding and knowledge of FAA regulations

**BS AERONAUTICAL SCIENCE  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Understanding aerodynamic performance of aircraft powered by reciprocating and turbine engines
- B. Use of electronic navigation and flight control systems
- C. Crew coordination (cockpit resource management)
- D. Knowledge of flight physiology, awareness of flight psychology (human factors)
- E. Awareness of safety and accident prevention
- F. Understanding the concepts and process of meteorology
- G. Instrument flight skill
- H. Multi-engine/high performance aircraft operations
- I. Knowledge of Federal Aviation Regulations
- J. Aeronautical decision making (judgement skills)
- K. Actions, attitudes, and knowledge of security considerations

## **BS AEROSPACE ENGINEERING DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Apply knowledge of mathematics and science
- B. Design and conduct experiments
- C. Analyze and interpret experimental data
- D. Apply knowledge of aerodynamics
- E. Apply knowledge of aircraft performance
- F. Apply knowledge of stability and control
- G. Apply knowledge of aerospace materials
- H. Apply knowledge of aircraft and spacecraft structures
- I. Apply knowledge of propulsion
- J. Apply knowledge of orbital mechanics
- K. Apply knowledge of spacecraft dynamics
- L. Apply knowledge of control systems
- M. Apply knowledge of circuits, electronics, and instrumentation
- N. Identify, formulate, and solve engineering problems
- O. Use the techniques, skills, and modern engineering tools necessary for engineering practice
- P. Design an aircraft or spacecraft system, component, or mission to meet desired needs
- Q. Understand the impact of engineering decisions on society and the environment
- R. Understand professional and ethical responsibility
- S. Recognize the need to continue professional development throughout one's career

## **BS AEROSPACE STUDIES DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Effective communication skills
- B. Interpretation of written material
- C. Analytical thinking
- D. International perspectives
- E. Understanding of basic statistics
- F. Cultural awareness
- G. Interdisciplinary knowledge and skills

**BS AIRCRAFT ENGINEERING TECHNOLOGY  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Aerodynamics/performance
- B. Structures
- C. Propulsion
- D. Dynamic systems and control
- E. Material science
- F. Manufacturing processes
- G. Non-destructive testing
- H. Measurement and testing
- I. Reliability/maintainability

**BS AVIATION BUSINESS ADMINISTRATION  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Understanding and applying management theory/concept
- B. Understanding and using accounting and financial information
- C. Understanding how the economic system works
- D. Awareness of personnel practices
- E. Applying statistical and/or quantitative techniques to problem solving
- F. Understanding of the global interconnectivity in the business world
- G. Awareness of how ethical behavior is in the self-interest of both the company and the individual
- H. Ability to access, analyze, and present information using appropriate technology

**BS AVIATION MAINTENANCE MANAGEMENT  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Understanding and applying management theory/concepts
- B. Understanding and using accounting and financial information
- C. Understanding how the market system works
- D. Awareness of personnel procedures, collective bargaining, and the legal obligations of managements
- E. Applying statistical and/or quantitative techniques to problem solving

**BS AVIATION MAINTENANCE MANAGEMENT (AVIONICS)  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Understanding and applying management theory/concepts
- B. Understanding and using accounting and financial information
- C. Understanding how the market system works
- D. Awareness of personnel procedures, collective bargaining, and the legal obligations of managements
- E. Applying statistical and/or quantitative techniques to problem solving

**BS AVIATION MAINTENANCE MANAGEMENT (MAINTENANCE)  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Understanding and applying management theory/concepts
- B. Understanding and using accounting and financial information
- C. Understanding how the market system works
- D. Awareness of personnel procedures, collective bargaining, and the legal obligations of managements
- E. Applying statistical and/or quantitative techniques to problem solving
- F. General knowledge of maintenance operations and safety
- G. Electrical and electronic systems operations
- H. Skills in metallic and non-metallic structures and repair
- I. Understanding of a/c systems (hydraulics, environmental, etc.)
- J. Knowledge of reciprocating and turbine engines and their respective systems
- K. Knowledge of and ability to work with technical publications and manuals
- L. Skills in troubleshooting
- M. Use of precision measuring instruments and basic and special tools
- N. Understanding and knowledge of FAA regulations

**BS AVIATION TECHNOLOGY (AVIONICS/FLIGHT)  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. General knowledge of maintenance operations and safety
- B. Knowledge of and ability to work with technical publications and manuals
- C. Skills in troubleshooting
- D. Use of precision measuring instruments and basic and special tools
- E. Understanding and knowledge of FAA regulations
- F. Use of electronic navigation and flight control systems
- G. Crew coordination (cockpit resource management)
- H. Knowledge of flight physiology, awareness of flight psychology (human factors)
- I. Awareness of safety and accident prevention
- J. Understanding the concepts and process of meteorology
- K. Instrument flight skill
- L. Multi-engine/high performance aircraft operations
- M. Aeronautical decision making (judgement skills)
- N. Basic and advanced electronics analysis and theory
- O. Avionics equipment and system analysis
- P. Avionics/electronics system test, analysis, and repair

**BS AVIATION TECHNOLOGY (MAINTENANCE/AVIONICS)  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. General knowledge of maintenance operations and safety
- B. Skills in metallic and non-metallic structures and repair
- C. Understanding of a/c systems (hydraulics, environmental, etc.)
- D. Knowledge of reciprocating and turbine engines and their respective systems
- E. Knowledge of and ability to work with technical publications and manuals
- F. Skills in troubleshooting
- G. Use of precision measuring instruments and basic and special tools
- H. Understanding and knowledge of FAA regulations
- I. Basic and advanced electronics analysis and theory
- J. Avionics equipment and system analysis
- K. Avionics/electronics system test, analysis, and repair

**BS AVIATION TECHNOLOGY (MAINTENANCE/FLIGHT)  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. General knowledge of maintenance operations and safety
- B. Skills in metallic and non-metallic structures and repair
- C. Understanding of a/c systems (hydraulics, environmental, etc.)
- D. Knowledge of reciprocating and turbine engines and their respective systems
- E. Knowledge of and ability to work with technical publications and manuals
- F. Skills in troubleshooting
- G. Use of precision measuring instruments and basic and special tools
- H. Understanding and knowledge of FAA regulations
- I. Electrical and electronic systems operations
- J. Understanding aerodynamic performance of aircraft powered by reciprocating and turbine engines
- K. Use of electronic navigation and flight control systems
- L. Crew coordination (cockpit resource management)
- M. Knowledge of flight physiology, awareness of flight psychology (human factors)
- N. Awareness of safety and accident prevention
- O. Understanding the concepts and process of meteorology
- P. Instrument flight skill
- Q. Multi-engine/high performance aircraft operations
- R. Aeronautical decision making (judgement skills)

**BS AVIONICS ENGINEERING TECHNOLOGY  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Basic and advanced electronics analysis and theory
- B. Avionics system analysis and design
- C. Avionics/electronics system test
- D. Applied mechanical engineering concepts
- E. Basic design and engineering concepts
- F. Applications software and programming
- G. Reliability/maintainability
- H. Systems integration



## **BS CIVIL ENGINEERING DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Airport planning and design
- B. Transportation engineering
- C. Hydraulics/hydrology
- D. Materials testing
- E. Construction engineering and management
- F. Soil mechanics
- G. Pavement design
- H. Structural analysis and design
- I. Computer skills for civil engineering analysis and design
- J. CAD
- K. Environmental engineering
- L. Understand and adapt to the challenges of contemporary civil engineering
- M. Apply interdisciplinary skills and knowledge to actual problems
- N. Recognize the need to continue professional development throughout one's career

## **BS COMPUTER ENGINEERING DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Apply knowledge of mathematics, science, and engineering
- B. Design and conduct experiments
- C. Analyze and interpret data
- D. Design a computer system or component to meet desired needs
- E. Implement computer programs and computational processes to meet desired needs
- F. Function on multi-disciplinary teams
- G. Identify, formulate, and solve engineering problems
- H. Understand professional and ethical responsibility
- I. Communicate effectively
- J. Understand the impact of engineering solutions in a global and societal context
- K. Engage in life-long learning
- L. Understand contemporary issues in computer engineering
- M. Use modern engineering tools

## **BS COMPUTER SCIENCE DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Understand and apply object-oriented programming concepts to the development of software modules
- B. Understand and apply algorithm design concepts and techniques to the design of software modules
- C. Understand and apply data structures theory to the design of software modules
- D. Apply theory of modularity, abstraction, and information hiding to the design of software systems
- E. Understand the fundamental concepts of computer organization and architecture
- F. Understand the fundamental concepts of real-time computing
- G. Understand the theory and use of operating systems
- H. Apply software engineering concepts to specify, design, construct, and test a software product
- I. Understand the interrelationship between computer hardware and software fundamentals
- J. Apply scientific, mathematical, and engineering concepts, methods, and tools to the solution of software engineering problems
- K. Use defined life-cycle engineering processes designed to produce software systems that meet functional, quality, economic, and schedule requirements
- L. Understand and appreciate an engineer's professional and ethical responsibilities
- M. Understand and appreciate the importance of life-long learning

## **BS ELECTRICAL ENGINEERING DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Apply knowledge of mathematics, science, and engineering
- B. Design and conduct experiments
- C. Analyze and interpret data
- D. Design a computer system or component to meet desired needs
- E. Implement computer programs and computational processes to meet desired needs
- F. Function on multi-disciplinary teams
- G. Identify, formulate, and solve engineering problems
- H. Understand professional and ethical responsibility
- I. Communicate effectively
- J. Understand the impact of engineering solutions in a global and societal context
- K. Engage in life-long learning
- L. Understand contemporary issues in electrical engineering
- M. Use techniques, skills, and modern engineering tools necessary for engineering practice
- N. Demonstrate depth within specific sub-areas of electrical engineering such as control, communications, systems, circuit design, etc.

## **BS ENGINEERING PHYSICS DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Apply knowledge of mathematics, science, and engineering
- B. Design and conduct experiments
- C. Analyze and interpret data
- D. Design a system, component, or process to meet desired needs
- E. Function on multi-disciplinary teams
- F. Identify, formulate, and solve engineering problems
- G. Understand professional and ethical responsibility
- H. Communicate effectively
- I. Understand the impact of engineering solutions in a global and societal context
- J. Recognize and engage in life-long learning
- K. Knowledge of contemporary issues
- L. Use the techniques, skills, and modern engineering tools necessary for engineering practice
- M. Knowledge of classical mechanics
- N. Knowledge of engineering electricity and magnetism
- O. Knowledge of space physics
- P. Knowledge of quantum physics
- Q. Knowledge of space systems engineering and design
- R. Knowledge of electro-optical engineering
- S. Knowledge of microcomputers and electronic instrumentation

## **BS HUMAN FACTORS PSYCHOLOGY DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Knowledge of human psychophysiological, cognitive, and perceptual functioning
- B. Knowledge of human factors including analytic methods, models, and human capabilities and limitations
- C. Knowledge of basic statistical procedures, including analysis of variance
- D. Research methods and design skills
- E. Effective oral and written communication skills
- F. Ability to read, comprehend, and analyze results of published empirical studies in the human factors field
- G. Understanding of the application of human factors and psychological knowledge in aviation and other applied domains

## **BS MANAGEMENT OF TECHNICAL OPERATIONS DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Relating management concepts to prior knowledge in a technical operations specialty
- B. Using accounting, financial, and statistical information in the management of technical operations
- C. Applying organizational and human resources theory and concepts in the workplace
- D. Using computer technology to support technical operations
- E. Understanding the social, economic, ethical, political, and legal environment of a technical enterprise
- F. Applying strategic and project planning principles and techniques in a technical operation
- G. Using general managerial skills (leadership, problem solving, and decision-making)
- H. Using managerial skills in computers
- I. Using managerial skills in technical writing
- J. Using managerial skills in quantitative/mathematics

## **BS PROFESSIONAL AERONAUTICS DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Knowledge and understanding of aviation law and regulations
- B. Understanding and application of management theory/concepts
- C. Understanding and use of accounting and financial information
- D. Use of statistical/quantitative techniques to solve problems
- E. Understanding of safety issues, employment of accident prevention techniques, safety program practices and management, and mishap investigation
- F. Knowledge and understanding of advanced management concepts, issues, and practices as applied in a variety of aviation operations and services
- G. Knowledge and understanding of aeronautical science, technology and operations, concepts, theory and applications

**BS SAFETY SCIENCE  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Identify, evaluate and control health and safety hazards
- B. Demonstrate competency in the principles of fire prevention, suppression, and life safety
- C. Demonstrate competency in the fundamentals of industrial hygiene and toxicology
- D. Apply systems safety analysis techniques to identify, prioritize, and control hazards in human-machine systems
- E. Demonstrate knowledge of aviation safety reporting systems and safety data sources
- F. Develop an understanding of workplace security to deal with the threat of violence and other intentional harmful acts
- G. Demonstrate an ability to participate in the development, testing, and maintenance of an airport emergency plan, including Aircraft Rescue and Fire Fighting
- H. Develop an understanding of federal human resources statutes and legal torts and contracts as it relates to safety/risk management in aviation law
- I. Develop and maintain a comprehensive safety program for the aviation and aligned industries that address all relevant regulatory requirements of the FAA, OSHA, EPA and DOT
- J. Apply DOT regulations to the transportation of different classes of hazardous materials
- K. Discuss the federal regulations pertaining to aircraft operations, rulemaking and certification
- L. Evaluate an airport's compliance with federal regulations
- M. Demonstrate an understanding and application of the regulatory requirements organizations operate under, including OSHA, EPA and DOT regulations, and workers' compensations laws
- N. Initiate, develop, conduct and manage aircraft accident investigations in accordance with all the requirements of the NTSB, FAA and other relevant regulatory bodies
- O. Apply SHELL and Reason's model to understanding accident causation and prevention
- P. Evaluate the role of human factors issues (fatigue, body rhythms, vision, etc.) as they relate to human performance and accident causation and prevention
- Q. Apply principles of crash survival to the design and outfitting of aircraft
- R. Complete a "Crash Survival Analysis" rating for various fixed-wing and rotor aircraft

**BS SCIENCE, TECHNOLOGY, AND GLOBALIZATION  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Understand, analyze, and work with international cultures, different types of business enterprises, private and public organizations
- B. Define and find solutions to complex problems that may have multiple, open-ended solutions
- C. Communicate clearly and effectively to different audiences and in different circumstances
- D. Work effectively in diverse teams
- E. Act responsibly and demonstrate ethical behavior
- F. Conduct independent research at the level of a senior thesis or professional-level consulting project



**M AERONAUTICAL SCIENCE  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

**AERONAUTICS SPECIALIZATION**

- A. Air transportation as part of the global, multi-modal system
- B. Basic elements of Space Transportation System
- C. State-of-the-art materials and practices used in manufacture and maintenance of A/A vehicles
- D. Human factors problems and analysis
- E. Major steps in developing a research study
- F. Analysis of five major research methodologies
- G. Advances in Aviation/Aerospace aerodynamics
- H. Value of simulation in aviation training programs
- I. Operation of high technology meteorology data computer systems
- J. Evaluation of aircraft and spacecraft guidance, control, communication, and navigation systems
- K. Analysis of spacecraft propulsion systems

**M AERONAUTICAL SCIENCE  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

**AVIATION/AEROSPACE EDUCATION TECHNOLOGY SPECIALIZATION**

- A. Air transportation as part of the global, multi-modal system
- B. Basic elements of Space Transportation System
- C. State-of-the-art materials and practices used in manufacture and maintenance of A/A vehicles
- D. Human factors problems and analysis
- E. Major steps in developing a research study
- F. Analysis of five major research methodologies
- G. Role of education in Aviation/Aerospace industry
- H. Value of simulation in aviation training programs
- I. Similarities and differences between pedagogy and andragogy
- J. Uniqueness and commonalities of the adult learning process

**M AERONAUTICAL SCIENCE  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

**AVIATION/AEROSPACE MANAGEMENT SPECIALIZATION**

- A. Air transportation as part of the global, multi-modal system
- B. Basic elements of Space Transportation System
- C. State-of-the-art materials and practices used in manufacture and maintenance of A/A vehicles
- D. Human factors problems and analysis
- E. Major steps in developing a research study
- F. Analysis of five major research methodologies
- G. Production and procurement management in manufacturing
- H. Supply and distribution functions in the logistic system
- I. Strategic planning and strategic management concepts
- J. Interaction of maintenance with operations, logistics, and training functions
- K. Key factors impacting on R and D programs

**M AERONAUTICAL SCIENCE  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

**AVIATION/AEROSPACE OPERATIONS SPECIALIZATION**

- A. Air transportation as part of the global, multi-modal system
- B. Basic elements of Space Transportation System
- C. State-of-the-art materials and practices used in manufacture and maintenance of A/A vehicles
- D. Human factors problems and analysis
- E. Major steps in developing a research study
- F. Analysis of five major research methodologies
- G. Past, present, and future airspace and ATC technology
- H. Roles and responsibilities of FAA, NTSB, and military in accident investigation
- I. Crash site investigation
- J. Management and operations related to Air Carriers
- K. Qualifications and training of aircraft dispatchers
- L. Responsibilities associated with Corporate Aviation operations

**M AERONAUTICAL SCIENCE  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

**AVIATION/AEROSPACE SAFETY SYSTEMS SPECIALIZATION**

- A. Air transportation as part of the global, multi-modal system
- B. Basic elements of Space Transportation System
- C. State-of-the-art materials and practices used in manufacture and maintenance of A/A vehicles
- D. Human factors problems and analysis
- E. Major steps in developing a research study
- F. Analysis of five major research methodologies

**M AERONAUTICAL SCIENCE  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

**HUMAN FACTORS IN AVIATION SYSTEMS SPECIALIZATION**

- A. Air transportation as part of the global, multi-modal system
- B. Basic elements of Space Transportation System
- C. State-of-the-art materials and practices used in manufacture and maintenance of A/A vehicles
- D. Human factors problems and analysis
- E. Major steps in developing a research study
- F. Analysis of five major research methodologies

**M AERONAUTICAL SCIENCE  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

**SPACE STUDIES SPECIALIZATION**

- A. Air transportation as part of the global, multi-modal system
- B. Basic elements of Space Transportation System
- C. State-of-the-art materials and practices used in manufacture and maintenance of A/A vehicles
- D. Human factors problems and analysis
- E. Major steps in developing a research study
- F. Analysis of five major research methodologies

**M AEROSPACE ENGINEERING AND MS AEROSPACE ENGINEERING  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Ability to work independently on new scientific/engineering projects
- B. Ability to design novel experiments
- C. Knowledge of aerodynamics
- D. Knowledge of aircraft structures
- E. Knowledge of aerospace materials
- F. Knowledge of computational techniques

**M BUSINESS ADMINISTRATION IN AVIATION  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Understanding the functions and scope of the management of human resources
- B. Knowledge and application in aviation of organizational concepts including group dynamics, leadership, conflict resolution, ethics, and motivation
- C. Understanding the concepts and strategies involved in planning, implementing, and controlling a marketing plan with special emphasis on aviation organizations
- D. Application and analysis of the following managerial accounting concepts: cost accounting, cost-volume-profit relationships, budgeting, standard costs, segment analysis, and financial ratios with emphasis on aviation and aviation-related industries
- E. Skills in analyzing financial statements and other corporate finance concepts and techniques in aviation and aviation-related industries
- F. Knowledge of general systems concepts, decisions, and information systems
- G. Application of statistical and quantitative analysis
- H. Application of microeconomic concepts to aviation operations demand using forecasting and pricing techniques
- I. Skills to formulate strategy and policy required to obtain organizational goals in the competitive environment of airlines, airports, manufacturing, and government

**MS HUMAN FACTORS AND SYSTEMS  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

**HUMAN FACTORS ENGINEERING TRACK**

- A. Ability to identify human factors problems in operational environments
- B. Knowledge of general systems concepts
- C. Ability to apply the knowledge of human perception, cognition, and memory to operational and design problems
- D. Understanding and ability to apply statistical and quantitative techniques
- E. Understanding and ability to apply the strategies involved in planning, implementing, and controlling a research plan

**MS HUMAN FACTORS AND SYSTEMS  
DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

**SYSTEMS ENGINEERING TRACK**

- A. Knowledge of general systems concepts
- B. Ability to apply the knowledge of reliability, maintainability, logistics, safety, and producibility to operational and design problems
- C. Ability to identify human factors problems in operational environments
- D. Ability to balance operational, behavioral, economic, and logistical factors in operations and design
- E. Understanding and ability to apply statistical and quantitative techniques
- F. Understanding and ability to apply the strategies involved in planning, implementing, and controlling a research plan



## **MS TECHNICAL MANAGEMENT DEGREE-SPECIFIC SKILLS**

**DIRECTIONS:** Use the items listed to answer question #11. Record all ratings on the survey itself, NOT on this flyer.

- A. Using computer techniques to solve management problems
- B. Understanding and applying quantitative and statistical skills for decision making
- C. Using computer graphics to enhance verbal presentations
- D. Understanding electronic data systems and relational databases
- E. Using financial accounting and quality control processes
- F. Applying statistical methods to project development and problem solutions
- G. Understanding systems development and operation
- H. Understanding the role of leadership and management in a variety of organizational alternatives
- I. Understanding the role of communication in team building and motivation
- J. Assessing the regulatory, ethical, and legal environments of an organization or industry
- K. Understanding marketing techniques applicable to technical operations
- L. Understanding project management and tactical planning in the technical environment
- M. Using management science principles and software to make better decisions
- N. Understanding the cost and process of improving product quality in an organization