

Application for Federal Assistance SF-424

Version 02

* 1. Type of Submission: <input type="radio"/> Preapplication <input checked="" type="radio"/> Application <input type="radio"/> Changed/Corrected Application	* 2. Type of Application: <input checked="" type="radio"/> New <input type="radio"/> Continuation <input type="radio"/> Revision	* If Revision, select appropriate letter(s): _____ * Other (Specify) _____
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* 3. Date Received: 04/17/2008	4. Applicant Identifier: _____
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5a. Federal Entity Identifier: _____	* 5b. Federal Award Identifier: _____
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State Use Only:

6. Date Received by State: _____	7. State Application Identifier: _____
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B. APPLICANT INFORMATION:

* a. Legal Name: University of Central Florida

* b. Employer/Taxpayer Identification Number (EIN/TIN): 59-292-4021	* c. Organizational DUNS: 150805653
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d. Address:

* Street1: 4000 Central Florida Blvd.
Street2: _____
* City: Orlando
County: Orange
* State: FL: Florida
Province: _____
* Country: USA: UNITED STATES
* Zip / Postal Code: 32826

e. Organizational Unit:

Department Name: _____	Division Name: Sponsored Programs
----------------------------------	---

f. Name and contact information of person to be contacted on matters involving this application:

Prefix: Ms.	* First Name: Terri
Middle Name: _____	
* Last Name: Vallery	
Suffix: _____	

Title: Contract Manager

Organizational Affiliation: Office of Research and Commercialization
--

* Telephone Number: 407-882-1186	Fax Number: 407-823-3299
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* Email: vallery@mail.ucf.edu

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9. Type of Applicant 1: Select Applicant Type:

H: Public/State Controlled Institution of Higher Education

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.116

CFDA Title:

Fund for the Improvement of Postsecondary Education

*** 12. Funding Opportunity Number:**

ED-GRANTS-020108-022

* Title:

Special Focus Competition: U.S.-Brazil Higher Education Consortia Program CFDA 84.116M

13. Competition Identification Number:

84-116M2008-1

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

N/A

*** 15. Descriptive Title of Applicant's Project:**

Engineering Global Leaders

Attach supporting documents as specified in agency instructions.

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16. Congressional Districts Of:

* a. Applicant

* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

* a. Federal

* b. Applicant

* c. State

* d. Local

* e. Other

* f. Program Income

* g. TOTAL

* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?

- a. This application was made available to the State under the Executive Order 12372 Process for review on
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E.O. 12372.

* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

- Yes
- No

21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name:

Middle Name:

* Last Name:

Suffix:

* Title:

* Telephone Number: Fax Number:

* Email:

* Signature of Authorized Representative: * Date Signed:

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Standard Form 424 (Revised 10/2005)
Prescribed by OMB Circular A-102

Application for Federal Assistance SF-424

Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

Attachments

AdditionalCongressionalDistricts

File Name

Mime Type

AdditionalProjectTitle

File Name

Mime Type

ASSURANCES - NON-CONSTRUCTION PROGRAMS

OMB Approval No. 4040-0007
Expiration Date 04/30/2008

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

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Prescribed by OMB Circular A-102

Tracking Number: GRANT00453418

9. Will comply, as applicable, with the provisions of the Davis- Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327- 333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93- 205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (Identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL Lori Brown	* TITLE Proposal Manager
* APPLICANT ORGANIZATION University of Central Florida	* DATE SUBMITTED 04-17-2008

Standard Form 424B (Rev. 7-97) Back

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

Approved by OMB

0348-0046

1. * Type of Federal Action: <input type="checkbox"/> a. contract <input checked="" type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	2. * Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input checked="" type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	3. * Report Type: <input checked="" type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change For Material Change Only: year quarter date of last report
4. Name and Address of Reporting Entity: <input checked="" type="checkbox"/> Prime <input type="checkbox"/> SubAwardee Tier if known: * Name: N/A * Address: N/A N/A Congressional District, if known:		5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:
6. * Federal Department/Agency: N/A	7. * Federal Program Name/Description: Fund for the Improvement of Postsecondary Education CFDA Number, if applicable: 84.116	
8. Federal Action Number, if known:	9. Award Amount, if known:	
10. a. Name and Address of Lobbying Registrant (if individual, complete name): * Name: N/A N/A * Address:	b. Individual Performing Services (including address if different from No. 10a): * Name: N/A N/A	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.		
* Signature: Lori Brown * Name: Ms. Lori Brown Title: Proposal Manager Telephone No.: 407-882-1114 Date: 04-17-2008		
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NOTICE TO ALL APPLICANTS

The purpose of this enclosure is to inform you about a new provision in the Department of Education's General Education Provisions Act (GEPA) that applies to applicants for new grant awards under Department programs. This provision is Section 427 of GEPA, enacted as part of the Improving America's Schools Act of 1994 (Public Law (P.L.) 103-382).

To Whom Does This Provision Apply?

Section 427 of GEPA affects applicants for new grant awards under this program. **ALL APPLICANTS FOR NEW AWARDS MUST INCLUDE INFORMATION IN THEIR APPLICATIONS TO ADDRESS THIS NEW PROVISION IN ORDER TO RECEIVE FUNDING UNDER THIS PROGRAM.**

(If this program is a State-formula grant program, a State needs to provide this description only for projects or activities that it carries out with funds reserved for State-level uses. In addition, local school districts or other eligible applicants that apply to the State for funding need to provide this description in their applications to the State for funding. The State would be responsible for ensuring that the school district or other local entity has submitted a sufficient section 427 statement as described below.)

What Does This Provision Require

Section 427 requires each applicant for funds (other than an individual person) to include in its application a description of the steps the applicant proposes to take to ensure equitable access to, and participation in, its Federally-assisted program for students, teachers, and other program beneficiaries with special needs. This provision allows applicants discretion in developing the required description. The statute highlights six types of barriers that can impede equitable access or participation: gender, race, national origin, color, disability, or age. Based on local circumstances, you should determine whether these or other barriers may prevent your students, teachers, etc. from such access or participation in, the Federally-funded project or activity. The description in your application of steps to be taken to overcome these barriers need not be lengthy; you may provide a clear and succinct

description of how you plan to address those barriers that are applicable to your circumstances. In addition, the information may be provided in a single narrative, or, if appropriate, may be discussed in connection with related topics in the application.

Section 427 is not intended to duplicate the requirements of civil rights statutes, but rather to ensure that, in designing their projects, applicants for Federal funds address equity concerns that may affect the ability of certain potential beneficiaries to fully participate in the project and to achieve to high standards. Consistent with program requirements and its approved application, an applicant may use the Federal funds awarded to it to eliminate barriers it identifies.

What are Examples of How an Applicant Might Satisfy the Requirement of This Provision?

The following examples may help illustrate how an applicant may comply with Section 427.

- (1) An applicant that proposes to carry out an adult literacy project serving, among others, adults with limited English proficiency, might describe in its application how it intends to distribute a brochure about the proposed project to such potential participants in their native language.
- (2) An applicant that proposes to develop instructional materials for classroom use might describe how it will make the materials available on audio tape or in braille for students who are blind.
- (3) An applicant that proposes to carry out a model science program for secondary students and is concerned that girls may be less likely than boys to enroll in the course, might indicate how it intends to conduct "outreach" efforts to girls, to encourage their enrollment.

We recognize that many applicants may already be implementing effective steps to ensure equity of access and participation in their grant programs, and we appreciate your cooperation in responding to the requirements of this provision.

Estimated Burden Statement for GEPA Requirements

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1890-0007. The time required to complete this information collection is estimated to average 1.5 hours per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: Director, Grants Policy and Oversight Staff, U.S. Department of Education, 400 Maryland Avenue, SW (Room 3652, GSA Regional Office Building No. 3), Washington, DC 20202-4248.

Attachment Information

File Name

3028-Equal_Opportunity.pdf

Mime Type

application/pdf

GEPA

UCF FIPSE BRAZIL will ensure equitable access and participation in our proposal program as follows:

Equal Opportunity and Student Disability Services

The UCF office of Equal Opportunity (EO) is responsible for the monitoring of civil rights laws, guidelines, policies, and programs at the federal, state, agency, and University levels. The EO Office facilitates campus policies and programs for students, faculty, staff, applicants, visitors, and community members in accordance with more than 10 statutes and numerous sets of guidelines. Programs to prevent discrimination on the basis of race, gender, national origin, age, religion, handicap/disability status, marital status and veterans' status are included in the EO Office mission. Affirmative action measures include outreach to underrepresented student, employee, and faculty populations; improvements in accessibility; addressing academic success and graduation, employee retention and promotion, and tenure to highest ranks; and elimination of any "glass ceiling" problems or perceptions. These policies and programs are normally administered by individual units on campus and monitored by EO.

It is the mission of Student Disability Services (SDS) to administer student civil rights laws, guidelines, policies, and programs at the federal, state, agency, and University levels. SDS ensures that qualified students have an equal opportunity to participate in and benefit from the curricular and co-curricular opportunities available at the UCF, as mandated by federal/state laws and the University's goal of becoming more inclusive and diverse. Integral to this mission is providing leadership, advocacy, and support services for qualified students. Student Disability Services provides information and individualized accommodations which are consistent with the student's documented disability.

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

* APPLICANT'S ORGANIZATION

University of Central Florida

* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE
--

Prefix: Ms. * First Name: Lori Middle Name:

* Last Name: Brown Suffix: * Title: Proposal Manager
--

* SIGNATURE: Lori Brown * DATE: 04/17/2008
--

U.S. Department of Education Budget Summary

* 1. Program

U.S.-Brazil Program

* 2. Select One: Lead (fiscal agent) Partner

* 3. Name of the Institution/Organization:

University of Central Florida

Project Costs Requested from FIPSE:

Budget Categories:	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
4. Personnel (salary & wages)	12,700.00	12,700.00	12,700.00	15,200.00	53,300.00
5. Fringe Benefits (employee benefits)	184.00	184.00	184.00	220.00	772.00
6. Travel	4,985.00	4,367.00	4,367.00	5,000.00	18,719.00
7. Equipment (purchase)					
8. Supplies (and materials)		1,000.00	1,000.00	1,000.00	3,000.00
9. Contractual (enter partner totals here)	2,500.00	2,133.00	2,133.00	2,500.00	9,266.00
10. Other (equipment rental, printing, etc.)					
11. Total Direct Costs (lines 4-10)	20,369.00	20,384.00	20,384.00	23,920.00	85,057.00
12. Indirect Costs* (8% of line 11)	1,629.00	1,631.00	1,631.00	1,914.00	6,805.00
13. Mobility Stipends		32,000.00	32,000.00	32,000.00	96,000.00
14. Language Stipends	8,000.00	8,000.00	8,000.00	8,000.00	32,000.00
15. Subtotal of Stipends (lines 13 + 14)	8,000.00	40,000.00	40,000.00	40,000.00	128,000.00
16. Total Requested from FIPSE (lines 11 + 12 + 15) (These figures should appear on the Title Form)	29,998.00	62,015.00	62,015.00	65,834.00	219,862.00

Project Costs Not Requested from FIPSE:

17. Lead Partner Non-Federal Funds	(b)(4)				
18. Subcontractor(s) Partner Non-Federal Funds					

Funds Requested by Foreign Partners:

19a. Total Requested from Canada					
19b. Total Requested from Mexico					
19c. Total Requested from Brazil	(b)(4)				
19d. Total Requested from Europe					

*** Indirect Cost Information (To be completed by Your Business Office):**

If you are requesting reimbursement for indirect costs on line 12, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal Government? Yes No

(2) If Yes, please provide the following information:

* Period covered by the Indirect Cost Rate Agreement: From: 07/01/2007 To: 06/30/2010

* Approving Federal Agency: OED Other (please specify): DHHS, Atlanta, GA, Arif Karim, 202-401-2808

(3) For Restricted Rate Programs (select one) - - Are you using a restricted indirect cost rate that:

Is included in your approved Indirect Cost Rate Agreement? Or, Complies with 34 CFR 76.564(c)(2)?

CONSORTIUM PARTNERS IDENTIFICATION FORM

* Program:
* Country:

Lead Partner:

* Name:
Prefix:
* First Name:
Middle Name:
* Last Name:
Suffix:

* Name of Institution/Organization: (60 Character Limit)

Department: (60 Character Limit)

* Complete Address:

* Street1:
Street2:
* City:
County:
* State:
State/Province:
* Country:
* Zip / Postal Code:

Phone Number: Fax Number:

Email:

CONSORTIUM PARTNERS IDENTIFICATION FORM

Partner Two:

* Name:

Prefix:

* First Name:

Middle Name:

* Last Name:

Suffix:

* Name of Institution/Organization: (60 Character Limit)

Department: (60 Character Limit)

* Complete Address:

* Street1:

Street2:

* City:

County:

* State:

State/Province:

* Country:

* Zip/Postal Code:

Phone Number: Fax Number:

Email:

CONSORTIUM PARTNERS IDENTIFICATION FORM

Partner Three:

* Name:

Prefix:

* First Name:

Middle Name:

* Last Name:

Suffix:

* Name of Institution/Organization: (60 Character Limit)

Department: (60 Character Limit)

* Complete Address:

* Street1:

Street2:

* City:

County:

* State:

State/Province:

* Country:

* Zip / Postal Code:

Phone Number: Fax Number:

Email:

CONSORTIUM PARTNERS IDENTIFICATION FORM

Important: Please attach your Consortium Partners Identification Form Attachment file(s). Please remember that any files you attach must be a Pure Edge document.

1) Please attach Attachment 1

ED_FIPSEConsortiumPartnersIdentificationFormAttachment-V1.0.xfd

2) Please attach Attachment 2

CONSORTIUM PARTNERS IDENTIFICATION FORM

* Program:

* Country:

Lead Partner:

* Name:

Prefix:

* First Name:

Middle Name:

* Last Name:

Suffix:

* Name of Institution/Organization: (60 Character Limit)

Department: (60 Character Limit)

* Complete Address:

* Street1:

Street2:

* City:

County:

* State:

State/Province:

* Country:

* Zip / Postal Code:

Phone Number: Fax Number:

Email:

CONSORTIUM PARTNERS IDENTIFICATION FORM

Partner Two:

* Name:

Prefix: Dr.

* First Name: Thais

Middle Name:

* Last Name: Russomano

Suffix:

* Name of Institution/Organization: (60 Character Limit)

Pontificia Universidade Catolica do Rio Grande do Sul

Department: (60 Character Limit)

* Complete Address:

* Street1: Ave Ipiranga, 6681, P.1, Sala 205

Street2:

* City: Porto Alegre

County:

* State:

State/Province:

* Country: BRA: BRAZIL

* Zip/Postal Code: CEP 90619-900

Phone Number: 5551-3320-3660 Fax Number: 5551-3320-3885

Email: trussomano@hotmail.com

CONSORTIUM PARTNERS IDENTIFICATION FORM

Partner Three:

* Name:

Prefix:

* First Name:

Middle Name:

* Last Name:

Suffix:

* Name of Institution/Organization: (60 Character Limit)

Department: (60 Character Limit)

* Complete Address:

* Street1:

Street2:

* City:

County:

* State:

State/Province:

* Country:

* Zip/Postal Code:

Phone Number:

Fax Number:

Email:

FUND FOR THE IMPROVEMENT OF POSTSECONDARY EDUCATION INTERNATIONAL CONSORTIA PROGRAM

Project Title Form

* Program:

Consortium Members - - U.S. Partners:

* Lead:

* Partner:

Partner:

Consortium Members - - Foreign Partners:

* Lead:

* Partner:

Partner:

Consortium Members - - Foreign Partners:

Lead:

Partner:

* Project Title:

*** Abstract of Proposal: (1000 Character Limit)**

Curricular innovations include an International Minor in Engineering, Intensive Language Institute in Portuguese, Language Across the Curriculum program, Faculty Exchange Program, and Undergraduate Certificates in Engineering and Computer Sciences. Undergraduates (25 each from the United States and Brazil) will gain academic and/or work experience abroad. Determining course equivalencies is an important component as the process will allow for each partner institution to identify the required courses and their equivalents in addition to electives that can be used toward the minor or the certificates.

*** Select project format:**

- Four-year consortia project
- Two-year consortia project

Federal Funds Requested (\$):

* Year 1:	<input type="text" value="29,998.00"/>
* Year 2:	<input type="text" value="62,015.00"/>
* Year 3:	<input type="text" value="62,015.00"/>
* Year 4:	<input type="text" value="65,834.00"/>
* Total:	<input type="text" value="219,862.00"/>

SUPPLEMENTAL INFORMATION REQUIRED FOR DEPARTMENT OF EDUCATION GRANTS

1. Project Director

* Name:

Dr.

Consuelo

Stebbins

* Address:

4000 Central Florida Blvd.

Suite Millican Hall 350

Orange

County

Orlando

FL: Florida

32816

USA: UNITED STATES

* Phone Number:

407-882-0277

Fax Number:

407-823-4545

Email:

stebbins@mail.ucf.edu

2. Applicant Experience:

Yes No Not applicable to this program

3. Human Subjects Research

Are any research activities involving human subjects planned at any time during the proposed project Period?

Yes No

Are ALL the research activities proposed designated to be exempt from the regulations?

Yes Provide Exemption(s) #:

No Provide Assurance #, if available:

Please attach an explanation Narrative:

FileName

MimeType

Tracking Number: GRANT00453418

Project Narrative

Abstract Narrative

Attachment 1:

Title: Pages: Uploaded File: 6599-Abstract_revised_FIPSE.pdf

Project Narrative

Project Narrative

Attachment 1:

Title: Pages: Uploaded File: 3331-Mandatory_Engineering_Global_Leaders.pdf

Engineering Global Leaders

Lead Institutions: University of Central Florida & Universidade do Rio do Janeiro

The University of Central Florida prepares its students to be leaders in an emerging global community. Through the integrated efforts of the administration, faculty, academic professionals, and staff, the University has embarked on a comprehensive Internationalization Plan, which focuses on providing its students a globally enriching education and a diverse campus climate so that students will be able to cooperate and compete in their particular fields of study. The College of Engineering & Computer Science (CECS) at the University of Central Florida (UCF) is poised to go beyond its current internationalization efforts by serving as the lead for this proposal with its partners in Engineering and Computer Science: Embry Riddle Aeronautical University (ERAU), Universidade Federal do Rio de Janeiro (UFRJ) and Pontificia Universidade Católica do Rio Grande do Sul (PUCRS).

Paulo Freire recognized the importance of students working together and this proposal essentially offers undergraduate engineering and computer science students from the partner institutions, the opportunity to integrate new perspectives into what they have learned at their home institutions. According to Open Doors (IIE, 2006), engineering students are underrepresented in study abroad. The proposed project will enhance specific knowledge as well as provide skills that would make participants more competitive in the global market. Experiential activities and study abroad will enhance skills necessary for working in a global environment, such as dealing with diverse cultures and languages, intercultural communication, conflict management, and

adaptability. Furthermore, these activities may enhance problem solving abilities, self-confidence, and ability to influence others (IET Engineering Management, Ju 06, p.42).

One of UCF's international goals is to increase the number of minority students studying abroad. UCF is a large metropolitan state university and is a member of the Hispanic Association of Colleges and Universities (HACU). With enrollment of 48,000 students, UCF's 12 colleges offer 219 undergraduate and graduate degree programs. UCF is the sixth largest university in the nation and has the largest undergraduate enrollment in the state of Florida. The final Fall 2007 Headcount for Engineering and Computer Science majors was 4,883 undergraduate and 992 graduate students. Approximately one-third of the undergraduate majors (1,612) represent ethnic backgrounds other than White; of the total number of engineering majors only, 721 (44%) are Hispanic students.

Drawing on this large minority population, it is anticipated that the student funding for acquiring the engineering minor abroad will provide opportunities for our minority students to study abroad, especially our Hispanic students. Since minority students represent an average of only 3% of the total number of students studying abroad, the grant will enable the university to significantly increase the number of minority students studying abroad.

Significance and Urgency

Central Florida and the State of Florida are strongly multicultural. Florida has one of the most culturally diverse populations among U.S. states with over 2.5 million Floridians born outside the United States; an additional 1.2 million were born in the United States to foreign-born parents. Almost a quarter of Florida's population is composed of either of immigrants or their immediate descendants - one of the highest

rates among U.S. states. About a third of all people moving to Florida each year do so from other countries. In 2003, over 180 foreign-affiliated companies were located in the Central Florida region, 70% of which were located in the Central Florida area. This region handles about one tenth of Florida's total export of goods, which exceed \$3 billion annually.

In June of 2004, the Enterprise Florida, Inc. (EFI) strategy entitled Diversifying Florida's Economy with Global Commerce was endorsed by the EFI International Business Council. This plan focuses on boosting Florida's trade and foreign direct investment both in established and new global markets. Given UCF's mission to empower its students to become productive workers in a world economy, we would be remiss not to provide for the development of student capabilities to interact with this important business and social sector of our state's developing economy. An international curricular focus to the College of Engineering and Computer Science degree programs will likely have strong and positive economic effects (jobs, personal investment, etc.) on our state's population for the foreseeable future.

Brazil is Florida's largest trading partner with trade totaling more than \$11.3 billion in 2006. In 2005, there was \$235 million in Foreign Direct Investment into Florida. In addition, there were over 1,000 persons employed by majority-owned, Brazil-Affiliated companies. In 2007, the Governor of Florida led a trade mission from the State of Florida, showing the importance of this relationship to our State. This will be a factor in ensuring that the program developed through this FIPSE is viable beyond the grant funding period.

I. Development of Innovative Curricula

A newly approved International Minor in Engineering at UCF will serve as a cornerstone for the proposal. The minor requires three major areas of study: language, culture, and specific coursework. The minor was approved by the university's curriculum committee in Spring 2008. ERAU has agreed to put through a similar International Minor for Computer Science majors so that students from ERAU and UCF will earn their minors in International Engineering and Computer Science through their experiences at UFRJ and PUCRS. New undergraduate certificates in Engineering and Computer Science will also be developed at UCF and ERAU for Brazilian students from UFRJ and PUCRS.

A. Program Objectives

The knowledge, skills, and abilities that are outcomes of this project are critical for students regardless of their institution or country. Program objectives include:

- Prepare students to be successful members of their respective workforces and informed participants in our global community.
- Graduates will demonstrate knowledge of concepts and principles, applying best practices in software design and engineering methods and tools.
- Graduates will be able to design engineering/computing systems for a global economy.
- Graduates will demonstrate their ability to apply engineering/computer skills in an experiential manner.
- Graduates will understand their professional and ethical responsibilities to our global society.

B. Curricular Innovations

Curricular Project #1--International Minor in Engineering (18-20 hrs) (UCF & ERAU)

The International Engineering Minor will provide engineering, computer science and engineering technology students with the opportunity to learn about and experience the global aspects of the practice of engineering, computer science and technology. Through this minor, CECS students can gain academic and/or work experience at the four partner institutions while simultaneously becoming familiar with the social, professional and technical cultures of their host country. Students can spend three semesters abroad gaining valuable international experience in their chosen areas of specialization. This is especially important in today's global economy in which employers look for graduates with international experience in their major area. The minor has three components: language, culture, and study abroad.

Component 1. Language Skill Acquisition (6 - 8 hrs)

It is important that students possess a working level of language skills in Portuguese before they leave for Brazil. Depending on their entry level of Portuguese, students will be given several options. True beginners of the language will attend the new Language Institute in Portuguese during both terms of the summer prior to their departure in order to gain an elementary level of proficiency and to gain an understanding and appreciation of the Brazilian culture. These students will continue their language skills by enrolling in the existing Intermediate class of Portuguese, which will be offered in the fall. When they depart for Brazil, they will attend a new 6-week intensive Portuguese language class to prepare them for their coursework in Portuguese. Students whose language

background is Spanish or another Romance language will enroll in the existing Accelerated Portuguese for Speakers of Romance Languages during fall term. If students demonstrate proficiency at the advanced level through by exam, they will take six hours of alternative international coursework at UCF related to Brazil in lieu of the foreign language credits.

Component 2. Cultural Understanding (3 hrs)

It is important to formally expose the students to the culture of Brazil before they depart. Since language and culture are intertwined, students begin acquiring the cultural component in their language classes. For more in-depth understanding of the history and culture of Brazil, students will complete three hours of coursework related to Brazil currently being offered by various departments (history, anthropology, political science, and business). In addition to the required coursework, students will participate in the Peer Conversation Program with Brazilian students enrolled at UCF & ERAU during the summer and fall terms. Additionally, students may enroll in a new 1-hour credit trailer course in Engineering that would link language to context (Languages Across the Curriculum.)

Component 3. Study Abroad Experience (9 hrs)

The study abroad experience represents the most important aspect of the new International Engineering Minor. To satisfy this requirement, students will complete 9 hours of technical coursework at one of the partner institutions abroad or complete 6 hours of technical coursework plus one semester (3 hours) as an engineering or technology intern in Brazil. With the realization that courses are different in the various

overseas institutions, the proposed overseas coursework will be reviewed by the Engineering faculty in order to ensure course equivalencies.

Curricular Project # 2—Intensive Language Institute in Portuguese

The Language Institute will offer two 6-week terms of Portuguese language and culture beginning summer 2009 to accommodate students' entry levels. POR 1120 will be offered during summer term A and in summer term B, POR 1121. Each of these 6-week language & cultural sessions will be complemented by two additional activities in the afternoon. The first activity will contextualize the language taught in the morning by providing Engineering & Computer Science activities in the afternoon in the target language. The second activity is a Peer Conversation Partner program that will be coordinated through the Center for Multilingual Multicultural Studies (CMMS). Brazilian students at CMMS will be paired with the UCF and ERAU students studying Portuguese in a conversational program that has been very successfully coordinated at CMMS for 10+ years. Experience has shown that these types of peer activities greatly increase the communication skills of the emerging language students.

Curricular Project # 3: LAC courses in Portuguese

Maintenance will also be achieved through UCF's Language Across the Curriculum (LAC) program. The LAC program offers students credit courses developed as collaboration between the Department of Modern Languages & Literatures and the academic department responsible for the particular subject. The students' products (e.g., papers, presentations, etc) would be graded by a faculty member in Engineering, but corrected by a faculty member certified to teach Portuguese in the Department of Modern Languages & Literatures. This program for Portuguese does not currently exist.

Curricular Project # 4-Faculty Exchange Program

The agreement will encourage faculty to visit each other's institutions for extended periods (30 days or longer) to present lecture series, teach a class or participate in a research projects. Project funds will be used to facilitate this exchange by providing travel support. This will help to insure sustainability in the relationship between institutions.

Curricular Project # 5: Undergraduate Certificates in Engineering and Computer Science

In order to accommodate the needs of the students from Brazil, UCF will offer a new UG certificate in Engineering while ERAU will offer one in Computer Science. Both of these new certificate programs will be developed in early fall for in-bound students after course equivalencies have been determined.

C. Sustainability of shared curricula

The requirements for the International Minor in Engineering are very consistent and synergistic with the goals of the DOE FIPSE program for Brazilian partnerships in higher education. The minor will require a study abroad experience of at least two semesters through a reciprocal student exchange with a foreign institution of higher education. Further, it includes preparatory language and cultural coursework to take best advantage of the richness of the other country's culture. This preparatory coursework includes a two-semester sequence of language preparation in the summer and fall terms as well as an additional language course and a course on the culture of the host country to be taken at the overseas institution. If the student prefers, the minor permits and encourages

participation in industrial internships abroad in lieu of academic work during their experience abroad.

We propose to showcase this new minor in the context of our relationship with our partners in Brazil and our US partner ERAU, should this proposal be awarded. This new minor will serve as a model for other engineering programs that are adding international experiences abroad to their curriculum. At the graduate level, we hope to further our research ties with our Brazilian partners in mechanical and aerospace engineering as well as in electrical and computer engineering and science. These are important areas of technology for both countries.

II. Organizational frameworks for student mobility

A. Justification for Mobility Project

Engineering has always been a global discipline. International organizations like IEEE, ASME, ACM and others sponsor international conferences that bring in researchers and engineers from around the globe to disseminate their advances in a seamless fashion. However, in recent years, the growth of truly multinational corporations with worldwide research, engineering and manufacturing facilities all over the world has emerged. This has occurred partly because of advances in communication and partly because of the needs of an increasingly global economy. As a result, American engineers working in teams with colleague engineers from other parts of the world has become quite commonplace. In these cases, understanding the professional and technical cultures of the engineers on the other side has taken on much more importance.

Two factors were considered in the evaluation of this partnership with Brazilian Universities. First, with Florida's growing ties with Brazil, it becomes obvious that such

partnership will strengthen the ties on a technical front, above and beyond the existing business ties. Second, with an ever increasing role of Brazil in Aviation industry, and the inclusion of ERAU, who is offering an undergraduate Aerospace Engineering degree that has been ranked #1 by US World News for eight consecutive years, the importance of the engineering discipline in this global industry will provide an unique opportunity to train the future workforce in this important industry. Such understanding of the professional, technical and national cultures can best be accomplished by spending a significant length of time with peers in these countries. This is the educational goal of the International Engineering minor – to foster such experiences that cannot be gained by taking courses on campus. The same holds true for the Brazilian students earning the Undergraduate Certificates at UCF or ERAU.

B. Organizational Structure—Sustainability of Agreements

The following international units at UCF will be involved in the project to ensure sustainability of agreements:

- Office of Internationalization will oversee the project including the development of the MOUs with the partner institutions in Brazil. This office will coordinate with other UCF colleges to build on the relationship by offering other reciprocal discipline programs at our two partner institutions during the funding period.
- The College of Engineering and Computer Sciences (CECS) will designate a coordinator for the FIPSE grant who will be responsible for determining course equivalencies and advisement of incoming and out bound Engineering students.
- Center for Multilingual Multicultural Studies (CMMS) will offer intensive English as a Second Language (ESL) program for Brazilian students participating

in the project. Students at the advanced level of ESL will be enrolled part-time in engineering courses. Upon successful achievement of the advanced level, Brazilian students will be enrolled full time in engineering courses or internships.

- Office of International Studies (OIS) will administer the reciprocal student exchange program and assist CECS with the internationalization of the courses/programs.
- International Services Center (ISC) will provide comprehensive services for the Brazilian students and advise them on immigration, employment, cultural, social, & financial issues.
- The Department of Modern Languages & Literatures will be responsible for the Portuguese language and cultural components of the proposal including the Intensive Language Institute in Portuguese. The Department will also offer the intermediate and advanced Portuguese courses in the fall term.
- Office of Career Services & Experiential Learning is responsible for the development of student internships or other work related experiences.

C. Student Mobility Numbers and Duration

During the 2007-08 academic terms, UCF sent approximately 285 students abroad. The College of Engineering and Computer Science sent 12 students abroad to study at European universities that have current reciprocal student exchange agreements with UCF. In a recent survey conducted by the Office of International Studies, UCF students indicated an interest in studying in Brazil and Argentina. It is anticipated that a minimum of 3-5 engineering students per year will be sent to Brazil from UCF for this project. It is anticipated that the majority of these students will be in second or third

years as the recent survey has indicated. Announcements about the availability of the International minor will be made at the orientation sessions for the college and the university in the summer and fall terms.

During the 2007-2008 academic terms, ERAU sent approximately 130 students abroad. Typically, about 15% of these students are from College of Engineering, with majority of them going to universities in Europe and South America. It is anticipated that 2-3 students per year will be sent to Brazil from ERAU for this project.

Drawing on the large number of Engineering and Computer Science majors at UCF and ERAU, it is anticipated that approximately 25 US students will participate over the life of the project while an equal number (25) of Brazilian students will study at the partner US institutions. In order for students to graduate on time, students will enroll in the beginning and intermediate language courses and selected content courses (both required for the minor) prior to departure.

D. Student Recruitment

UCF: Website, brochures and lectures to students twice a semester about the minor will be conducted by the CECS coordinator. The program will also be marketed at the Fall Study Abroad Fair in October in addition to announcements made during all orientation sessions for new engineering and computer science majors.

ERAU: The recruiting for this program will be coordinated by the College of Engineering and the study abroad office. In addition, ERAU will include information about the program in brochures and the website as part of the ERAU's study abroad materials.

E. Academic Credit Recognition: Articulation of equivalent courses

Reciprocal student exchange agreements, such as the one described in this proposal, require colleges to document course equivalencies for the program before the courses are approved by the undergraduate or graduate deans. The course equivalencies will be an important component of this grant as this process will allow for each partner institution to identify the required courses and their equivalents in addition to electives that can be used toward the minor or the certificates. The partner institutions will work together in the fall to determine course equivalencies as required by each of the partners' accreditation agencies.

UCF: Determination of equivalency with UCF courses will be facilitated by Dr. Avelino Gonzalez, Chair of the CECS International Committee. The partner institutions in Brazil will submit course information to Dr. Gonzalez for equivalency determination by the appropriate Departments in the CECS. The CECS departments will establish equivalencies as appropriate and provide academic rationales for their decisions. Students must choose from these approved courses when structuring their schedules.

ERAU: Course equivalencies at ERAU will be established by the College of Engineering, which will be led by Dr. Massood Towhidnejad, Chair of Computer and Software Engineering Department. He will be working with ERAU's office of records and registration, and the Office of the Provost to determine the appropriate equivalency between the ERAU's courses and those of the Brazilian partners. New courses may be added to the equivalency database using the same procedure as described. Courses may also be withdrawn from the database if their content has been changed at either institution. Course equivalency is re-evaluated as part of the process of agreement renewal every 3 years.

F. Fees

Students studying abroad will pay the usual tuition and associated fees at their home institution and will incur no additional financial obligations to the host institution.

Students will be given identification cards, which will entitle them to use the facilities at the host institution, including library and laboratory facilities.

G. Stipends

Students will receive stipends made possible through the grant to cover their housing and living expenses. The purpose of applying for the FIPSE is to provide these stipends for students, as many of them are not financially able to afford to study abroad program, especially our minority students. A minimum of \$1,000 per student per semester abroad will be provided for participation in this program in order to cover living and housing expenses; the maximum of \$1,000 for language stipends will be distributed according to students' entry level proficiency. The language stipends will be used to cover the costs of tuition in the academic language courses at UCF or Daytona Beach Community College (for ERAU students) or for registration in the summer Language Institute. Amount to be expended on language studies will depend on students' proficiency level at entry.

H. Student Support and Services

There several offices at UCF that will provide support services for students participating in the program:

- Office of Internationalization (OIAA) will facilitate coordination with the CECS to initiate the joint international agreements. OIAA has taken the lead in this proposal in support of the university's internationalization plan.

- **Center for Multilingual Multicultural Studies (CMMS).** Brazilian students who need ESL coursework will be enrolled at CMMS; students at the advanced level at CMMS may enroll in academic courses.
- **Office of International Studies (OIS)** will administer the reciprocal student exchange program. This office assists students with matriculation and advising.
- **International Services Center (ISC)** will serve as the primary source of advising on immigration, employment, cultural, social, & financial issues and is responsible for University compliance with U.S. immigration regulations.

III. Development of Adequate Language Preparation and Assessment

Summer Term: The UCF Language Institute, developed in 2007 at the UCF Summer Faculty Development Conference is a new program initiative, which immerses students in a number of modern language courses with either international service learning or an international study abroad type of experience. Portuguese is not currently one of the languages taught at the Institute; however, with FIPSE funding, students from UCF and ERAU will engage in intensive immersion language classes in Portuguese while they perform valuable service learning activities for the central Florida community with the Brazilian community. Students will learn cultural aspects of Brazil and will pledge a commitment to communicate at all times in Portuguese for the duration of the intensive language program. Students will attend classes for 5 hours per day (M-R) during both summer terms.

Fall Term: Intermediate/Advanced level study

Based on their level of proficiency, students will have the option of either taking the Portuguese classes at the intermediate level (POR 2200) or the Accelerated Portuguese for Speakers of Romance Languages (POR 3140).

Spring Term: Intensive Portuguese in Brazil

Taking advantage of the academic calendar differences between Brazil and the USA, UCF and ERAU students will continue their Portuguese studies program by attending an intensive immersion in Brazil during the January-March vacation period. The in country language program will include language course work and practice with exposure to the Brazilian engineering culture through visits to engineering companies. Upon completion of this language program, students will be enrolled in discipline specific courses taught in Portuguese at the Brazilian universities.

Returning students: Language Maintenance

Upon their return, US students taking part in the FIPSE will maintain their language proficiency gains through maintenance activities associated with experiential learning. The activities may include the following: service learning with Portuguese speaking community groups or with the newly recruited UCF and ERAU students studying Portuguese in the fall; local internships with Central Florida based companies doing business with Brazil or Portugal; and internships with Brazilian companies doing business in Florida. Internships will be coordinated through the Office of Experiential Learning.

IV. Development of Internships or Work Placement

UCF has a strong Office of Experiential Learning that can develop and instruct internships and cooperative education work experiences for students participating in

FIPSE. Internships are generally one semester of major-related work and cooperative education is a series of major-related, progressively responsible work experiences over a number of semesters. In both cases, these applied learning experiences are off-campus work opportunities, either part-time while they are taking courses or full-time. Students apply what they learn in the classroom in real-world environments to develop professional knowledge and skills. These courses provide a means for participating Brazilian students to practice language skills, have direct contact with American professionals, and gain a unique and direct method to incorporate what they are learning academically and culturally.

Because of their geographical proximity, Brazil and Florida have strong economical ties. As the world's sixteenth largest economy, Florida's international trade topped \$100 billion last year. Brazil is Florida's number one trading partner with over \$11 billion in total trade in 2006. Nearly \$8 billion in exports were shipped to Brazil from Florida in 2006, and half of them were produced in the state. More than 45 Brazilian companies are operating in Florida with a number of them located in the central Florida region. These businesses will be contacted to provide internships for engineering and computer science students upon completion of the minor in International Engineering to maintain the skills and languages learned abroad.

V. Accreditation

The College of Engineering and Computer Science (CECS) at the University of Central Florida is accredited by the Accreditation Board for Engineering and Technology (ABET) and the Southern Association of Colleges and Schools (SACS). Undergraduate and Graduate academic programs include Aerospace Engineering, Civil Engineering,

Computer Engineering, Computer Science, Electrical Engineering, Electrical Engineering Technology, Engineering Technology, Environmental Engineering, Industrial Engineering, Information Systems Technology Information Technology and Mechanical Engineering. UCF's location puts the college on the front lines of technology with industry; NASA, Lockheed Martin, Boeing, Harris Corporation, SAIC, Siemens and Walt Disney World provide opportunities for students to engage in research with world and industry leaders.

ERAU's College of Engineering houses the ABET Accredited Aerospace Engineering, Civil Engineering, Computer Engineering, Computer Science, Mechanical Engineering and Software Engineering undergraduate programs in addition to the graduate degrees in Aerospace Engineering and Software Engineering.

VI. Use of New Web Based and Other Computer Based Technologies

Engineering classes make extensive use of computer-based technologies (CBT). We expect CBT will be a significant part of the proposed partnership for the purposes of sustainability of the relationship.

VII. Development of an Evaluation Plan

The assessment plan will be an ongoing process that uses the results from measured outcomes to improve the program and process. During Fall 08, the CECS will develop an assessment plan that will include a mission statement, objectives, and at least three outcome measures to assess and improve the program, operations, and services. Every academic program and administrative unit at UCF is actively engaged in an assessment process in response to many external drivers, e.g., Southern Association of Colleges and Schools (SACS) Criteria for Accreditation, and most importantly the internal drive to

improve. The UCF assessment process that is conducted in response to SACS is the Institutional Effectiveness (IE) process. As part of this process all of the assessment plans and results undergo annual review by Divisional Review Committees and the University Assessment Committee (UAC). The IE plan for this FIPSE grant will be posted to the university's Operational Excellence and Assessment Support website.

VIII. Preparatory Phase: First Year of Project

If funded, the partner institutions agree to complete the following tasks during the initial funding phase:

1) Curricular Innovations:

ERAU: Minor in International Engineering & UG Certificate in Computer Science

UCF: CECS--UG Certificate in Engineering & LINC course; Dept. of Modern Languages--Language Institute in Portuguese

2) Assessment Plan for Project: UCF, ERAU, UFRJ, PUCRS

Determine scope of assessment (resource, process, results, feedback); finalize program goals; finalize intended student learning outcomes; inventory existing and needed assessment methods and select assessment measures and methods; submit Assessment Plan to partner institutions for review; and post the Assessment Plan on UCF's Institutional Effectiveness website.

3. Course Equivalencies: UCF, ERAU, UFRJ, PUCRS

Identify appropriate courses at each institution for equivalency; reach agreement on course articulation; and, develop informational database for advisors & students.

4. Recruit Student Candidates: UCF, ERAU, UFRJ, PUCRS

Define selection criteria; develop marketing plan; recruit students; and, assess language proficiency.

6. Language Institute in Portuguese: UCF

Design Portuguese language instruction for Institute and supplemental activities related to engineering discipline; coordinate Peer Conversation Partner program with CMMS; and, develop extracurricular activities to enhance cultural understanding.

Over the course of the next four years, the partner institutions will create globally competent citizens who will have the knowledge base and skills to enable effective functioning in a multicultural environment. Students will not only enhance content and knowledge skills, but also hone their critical thinking, and communication abilities. They will build enhanced sensitivity to cultural diversity, a mindfulness of their own actions in relationship to others, a capacity to use this knowledge to undertake complex problem solving in a global, multicultural environment, and the capability of communicating and interacting successfully within and across cultures.

The process of creating globally competent citizens will involve not only students, but also, necessarily, faculty and staff. Creating globally competent engineers will draw on the existing academic strengths of the partner institutions as well as on strengths in faculty development and support, student services, cultural competency, technology, and innovation. It will use existing models in conjunction with best practices from higher education. A substantial body of potential collaborators and resources currently available at the partner institutions will be marshaled to help support this initiative, thus leveraging any new resources for maximum benefit.

Project Narrative

Other Narrative

Attachment 1:

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Attachment 2:

Title: Pages: Uploaded File: 7802-Timeframe_FIPSE.pdf

Attachment 3:

Title: Pages: Uploaded File: 5291-Endorsement_Letters.pdf

Attachment 4:

Title: Pages: Uploaded File: 9926-Letter_of_Confirmation.pdf

**CONSUELO ELIZABETH STEBBINS
CURRICULUM VITAE**

ADDRESSES

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EDUCATION

Ph.D. Multilingual Multicultural Studies, Florida State University, 1985
M.A. Spanish Literature, Auburn University, 1972
B.A. Foreign Language Education, University of South Florida, 1970

I. ACADEMIC APPOINTMENTS

Assistant Vice President, Office of Internationalization, Academic Affairs, University of Central Florida, Orlando, 2007-Present.

Responsible for facilitating the university's internationalization plan; oversight of the Office on International Studies and the Center for Multilingual Multicultural Studies.

Associate Dean, College of Arts and Humanities, University of Central Florida, Orlando, 2006-2007. Responsible for graduate and undergraduate curriculum for 7 departments and 1 school.

Assistant Dean, College of Arts and Sciences, University of Central Florida, Orlando, 2003-2005. Responsible for undergraduate curriculum for 15 departments and 2 schools.

Chair, Department of Modern Languages & Literatures, College of Arts and Sciences, University of Central Florida, Orlando, 2000-2004. Responsible for curriculum, scheduling, budget, strategic planning and management of 50+ instructional faculty, and five staff members.

Graduate Coordinator, M.A. in TESOL program, University of Central Florida, 1995-2000. Responsible for design and implementation of new graduate program, curricular decisions, and administration of graduate program.

Director, Center for Professional Development, University of Central Florida, Division of Continuing Education, 1993-95. Responsible for budget and administration of non-credit programs for colleges.

Director, Center for Multilingual Multicultural Studies, University of Central Florida, 1987-2000. Responsible for budget, international marketing, curriculum, and supervision of 25 instructional staff and 9 support personnel.

ESL College wide-coordinator, Valencia Community College, 1981-87. Responsible for the development and administration of the English as a Second Language (ESL) curriculum on east and west campuses.

Administrative Assistant, Center for Intensive English Studies, Florida State University, 1979-81. Responsible for the daily operations of the program and the issuance of student visas.

Title VII Bilingual Teacher and Parent Teacher Liaison, Monroe County School Board, 1979.

Academic English Advisor and Instructor, Modern Language Department, Universidad de los Andes, Bogotá, Colombia, 1976-78.

Study Abroad Coordinator, Columbus Community College Department of Modern Languages, 1975-76. Responsible for the coordination of the study abroad program in Bogotá, Columbia.

Chair, Modern Language Department, Hardaway High School, Columbus, Georgia, 1973-76. Responsible for curriculum and supervision of instructional staff.

II. CONSULTING

Key West Art and Historical Society, Project: The Ghosts of East Martello, In Their Own Words. Received funding from the FHC, Spring 2007.
Key West Art and Historical Society, Project: In Their Own Words. Project received funding from the FHC and opened at the Museum of Art and History at the Key West Custom House in March 2005.
American College Testing (ACT), Fairness Consultant, 2004.
Pasco Hernando Community College, Designing an ESL Program. 1999.
Brevard Community College, Instructional Workshop, 1998.
State of New Jersey, Commission on Higher Education. Education of Language Minority Students Grants Program, 1998.
Seminole Community College, Instructional Workshop, 1996.
Brevard County Public Schools, Instructional Workshop, 1995.
American College Testing (ACT), Language Minority test development project, 1991-95.
Educational Testing Services (ETS), 1986-93, TOEFL Exam.
Broward Community College, College Prep/ESL Curriculum, 1992.
Orange County Public Schools, Instructional Workshop, 1991.
Florida Community College at Jacksonville, College Prep Curriculum, 1986.

III. PUBLICATIONS

4 books, 4 technical reports, 2 book reviews, 17 articles, 60 presentations,

IV. Grants Funded

P.I.: Central and North Florida Consortium for Bilingual/ESOL Paraprofessional Training: Aspire! U.S. Department of Education. Fall 98-Su 2003. (b)(4)
Co P.I.: Making Connections through VESOL Project. Florida Department of Education. Fall 98-Su '2000. (b)(4).
Co P.I.: International Studies and Foreign Languages. US Department of Education. Awarded to the Department of Foreign Languages and Literatures. 1996-97. \$60,000.
Co P.I.: Simplified Technical Communication for International Space Endeavors. Awarded to the Institute for Simulation and Training, University of Central Florida, 1990-91. (b)(4)

V. Awards

International Community Award for Education, 2004.
Cuban American Heritage Award presented by the Cuban Cultural Heritage, 2003.
Cuban American Heritage Scholar & Historian presented by the Cuban American Heritage Foundation, 2000.
Outstanding Educator, Sunshine State TESOL, 1997.
Exemplary Member. Goldenrod Historical Society, 1990.
Paul Harris Fellow. UCF/Research Park Rotary Club, 1989.
Doctoral Fellow for Bilingual Studies. U.S. Department of Education, 1979-81.

Resume: Alain J. Kassab

Educational Background

Ph.D. in Mechanical Engineering, University of Florida, 1989; M.S. in Mechanical Engineering, University of Florida, 1985; B.S. in Engineering Sciences, University of Florida, 1982.

Employment History

2001-present: Professor, University of Central Florida, MMAE Department with joint appointment in Department of Mathematical Sciences. Graduate Program Coordinator (2001-2003).

1996-2001: Associate Professor, University of Central Florida, MMAE Department with joint appointment in Department of Mathematical Sciences. Graduate Program Coordinator.

1991-1995: Assistant Professor, University of Central Florida Mechanical, Materials and Aerospace Engineering Department (MMAE) with joint appointment: Department of Mathematical Sciences.

1989-1991: Post-Doctoral Associate and Lecturer, University of Florida C.A.S.E., Palm Beach Gardens, Florida.

1983-1989: Mechanical Engineering Research Assistant, inverse heat conduction problems.

1982-1985: Engineering Science Department, Research Assistant, solar pumped Neodymium YAG lasers.

Research Interests: Boundary element methods, computational heat transfer and fluid flow, and inverse problems.

Teaching Experience

(1) Undergraduate: Aerodynamics I, Fluid Mechanics I, Modeling Methods in MMAE, Heat Transfer.

(2) Graduate: Boundary Elements, Computational Fluid Dynamics I and II, Mathematical Methods in MMAE, Heat Conduction, Convection Heat Transfer, Intermediate Heat Transfer, Statistical Thermodynamics, Numerical Heat Transfer, and Numerical Methods.

Teaching, Research, and Service Awards

University of Central Florida, 2000 University Excellence in Graduate Teaching Award.

University of Central Florida, College of Engineering and Computer Science, 2000 Excellence in Graduate Teaching Award.

University of Central Florida, MMAE Department, Excellence in Graduate Teaching Award: 1994, 1996, 1997, 1999.

University of Central Florida Teaching Incentive Program (UCF-TIP) Award, 2001.

State University System of Florida Teaching Incentive Program (SUS-TIP) Award, 1994.

University of Central Florida Research Incentive Award (UCF-RIA), 2003.

University of Central Florida, College of Engineering and Computer Science Distinguished Researcher Award, 2002.

University of Central Florida, MMAE Department, Distinguished Research Award: 2002, 2005.

University of Central Florida, MMAE Department, Excellence in Professional Academic Advising: 2002.

University of Central Florida, College of Engineering and Computer Science Excellence in Professional Service Award: 2001.

University of Central Florida, Mechanical and Aerospace Engineering Department, Excellence in Professional Service Award, 2001.

Graduate Student Activities Record: Graduated 7 Ph.D. and 11 M.S. students, served on 19 Ph.D. dissertation and 19 M.S. committees, advising 3 Ph.D. and 7 M.S. Students, guided non-M.S. thesis option students

Publication/Research Record

46 refereed journal papers

97 refereed international/national archival conference papers

2 books authored/edited

Co-editor of 7 Proceedings of international conferences

7 chapters in research monographs

Guest editor of 3 special issues of *Engineering Analysis*

11 book reviews in *ASME Applied Mechanics Reviews*

12 refereed and 4 un-refereed abstract conference presentations

4 Keynote/Opening/Plenary Addresses/Invited Lectures at National/International Conferences

Fellowships: Fellow of the American Society of Mechanical Engineers (USA); Fellow of Wessex Institute of Technology (UK).

Professional Societies and Service Record

Editorial board of *Engineering Analysis*

Associate Editor of *Inverse Problems in Engineering*

Associate Editor of *Advances in Boundary Elements*

Editorial board of *Boundary Element Communications*

Editorial Board of the *Transactions of the Wessex Institute of Technology: boundary elements*

Chair of 27th World Conference on Boundary Elements and Other Mesh Reduction Methods.

Co-chair of 20th Intl. Conf. on Boundary Elements

Co-chair 14th Intl. Conf. on Boundary Element Technology

Co-chair 6th Intl. Conf. on Comp. Aided Optimum Design

Co-chair 9th Intl. Conf. on Boundary Element Technology

Editorial Chair of SECTAM XXI, *21st Southeast Conference on Theoretical and Applied Mechanics*

Member of 37 international conference scientific advisory committees

Chaired/co-chaired/co-organized 28 conference sessions

Member of 8 conference organizing committees

ASME Hxfer Division K-20 Committee on Computational Heat Transfer

MMAE Graduate Program Coordinator (1996-2003)

Chair of three and member of five MAE/COE committees

Chair of UCF CECS Personnel Committee (1999-2000)

Member UCF Research Committee (1996-1999)

Member of UCF University Personnel Committee (2002-2004)

Member of UCF Faculty Senate (2002-2004), Senate Steering Committee (2002-2004)

Member of UCF Faculty Senate Committee on Committees (2002)

Member of ASME, ASEE, ISBE, and IABEM

President (1995) ASME Florida section

Secretary (1994) ASME Florida section

Technical Activities Chair, ASME Florida Section (1998-2000)

Faculty advisor of Pi Tau Sigma (1992-present)

Board Member of United Waterfowlers of Florida (2004-2005)

Avelino J. Gonzalez
Professor
School of Electrical Engineering and Computer Science
University of Central Florida

EDUCATION

Bachelor of Science in Electrical Engineering,
 University of Miami, Coral Gables FL,
 January 25, 1973.

Master of Science in Electrical Engineering,
 University of Miami, Coral Gables FL,
 May 19, 1974.

Doctor of Philosophy (Electrical Engineering),
 University of Pittsburgh, Pittsburgh, PA,
 December 18, 1979. Dissertation title:
 "Arc-Circuit Interaction Including the Effect
 of Pre-Current Zero Arc Instability"; Advisor:
 Dr. R. G. Colclaser, Professor and Chair, EE Dept.

PROFESSIONAL EMPLOYMENT

Dates	Title	Organization
8/95 to present	Professor	Department of Electrical and Computer Engineering University of Central Florida
8/05 to 6/07	Interim Chair	Civil and Environmental Engineering Dept University of Central Florida
8/86 to 8/95	Associate Professor	Department of Electrical & Computer Engineering University of Central Florida
4/79 to 8/86	Various engineering & supervisory positions	Westinghouse Electric Corp., Pittsburgh, PA and Orlando, FL
7/78 to 4/79	Graduate Research Assistant	University of Pittsburgh Pittsburgh, PA
9/74 to 7/78	Various engineering & administrative positions	Westinghouse Electric Corp., Pittsburgh, PA

MAJOR PUBLICATIONS

Books:

- Gonzalez, A. J. and D. D. Dankel,, The Engineering of Knowledge-Based Systems: Theory and Practice, Englewood Cliffs, NJ: Prentice Hall Inc, 1993.
- Becerra-Fernandez, L, Gonzalez, A. J. and Sabherwal, R., Knowledge Management Systems, Englewood Cliffs, N.J.: Prentice Hall, October, 2003.

Selected Professional Articles

- Nguyen, J. V., Becker, B. C. and Gonzalez, A. J., "Contextual Graphs for a Real World Decision Support System", Proceedings of the Florida Artificial Intelligence Research Society Conference, May 2006, Melbourne Beach, FL.
- Knauf, R., Tsuruta, S. and Gonzalez, A. J., "Towards Reducing Human Involvement in Validation of Knowledge-based Systems", IEEE Transactions on Systems, Man and Cybernetics – Part A. Vol. 37, issue 1, pp. 128-140,

January 2007.

- Brezillon, P. and Gonzalez, A. J., "A Tale of Two Context-based Formalisms for Representing Human Knowledge", International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA/AIE'06), Annecy, France, June 27-20, 2006
- Fernlund, H., Gonzalez, A. J., Georgiopoulos, M. and DeMara, R. F., "Learning Tactical Human Behavior through Observation of Human Performance", IEEE Transactions on Systems, Man and Cybernetics - Part B, Vol. 36, No. 1, pp. 128-140, February 2006.
- Gonzalez, A. J., Castro, J. and Gerber, W. E., "Automating the Acquisition of Tactical Knowledge for Military Missions", Journal of Defense Modeling and Simulation, Vol. 3, No. 1, Spring 2006.
- Castro, J., Georgiopoulos, M., DeMara, R. F. and Gonzalez, A. J., "Data-partitioning with Fuzzy ARTMAP using the Hilbert space filling curves: Emphasis on large database problems," Neural Networks, Volume 18, Issue 7, September 2005, Pages 967-984, 2005.
- Castro, J., Georgiopoulos, M., Secretan, J., DeMara, R. F., Anagnostopoulos, G. and Gonzalez, A. J., "Parallelization of Fuzzy ARTMAP to Improve its Convergence Speed: The Network Partitioning approach and the Data Partitioning approach," Nonlinear Analysis: Theory, Methods and Applications, Vol. 63, No. 5-7, November/December 2005, pp. 877-889
- Gonzalez, A. J., Gerber, W. J., DeMara, R. F. and Georgiopoulos, M., "Context-driven Near-term Intention Recognition", Journal of Defense Modeling and Simulation, Volume 1, Number 3, Pages 153-170, August 2004. (International)
- Vargas, J. J., Demara, R. F., Georgiopoulos, M., Gonzalez, A. J. and Marshall, H., "HPDU Bundling and Replication for Reduction of Distributed Simulation Communication Traffic", Journal of Defense Modeling and Simulation, Volume 1, Number 3, Pages 171-183, August 2004. (International)
- Gonzalez, A. J. and Saeki, S., "Using Context Competition to Model Tactical Human Behavior in a Simulation", Proceedings of the CONTEXT-01 Conference, Dundee Scotland, July 2001.
- Gonzalez, A. J., "Expert Systems", Chapter in the Scientific Encyclopedia, Salem, MA: Van Nostrand. Spring 2001.
- Henninger, A. E., Gonzalez, A. J., Georgiopoulos, M. and DeMara, R. F., "A Connectionist-Symbolic Approach to Modeling Agents: Neural Networks Grouped by Contexts". Proceedings of the CONTEXT-01 Conference, Dundee Scotland, July 2001.
- Drewes, P. J., Gonzalez, A. J. and Gerber, W., "Interpreting Trainee Intent in Real Time in a Simulation-based Training System", Transactions of the Society for Computer Simulation, Vol. 17, No. 3, September 2000, pp. 120-134.
- Sidani, T. A., and Gonzalez, A. J., "A Framework for Learning Implicit Expert Knowledge through Observation", Transactions of the Society for Computer Simulation, Vol. 17, No. 2, June 2000, pp. 54-72.

RESEARCH ACTIVITY

I have been active in several research projects in the past 20 years, most as Principal Investigator. I am currently serving as PI on a \$618,000 NSF grant to develop an intelligent dialogue management system for an avatar. I served as sole PI on a \$412,000 grant from NSF that seeks to develop novel means to represent knowledge in terms of contexts. In the more distant past, I served as PI on a three-year, \$450,000 research contract from NASA Kennedy Space Center that involved automatic generation of a model for the KATE model-based diagnostic reasoning system directly from a CAD representation of the device to be diagnosed. I also served as PI on a five year (b)(4) contract from the Florida High Technology and Industry Council and NASA Marshall Space Flight Center that sought to develop a model-based approach to monitoring and control of the Space Station Freedom power distribution system. Since 1998 I have been involved as PI in a number of DoD research grants and contracts. This research has been in the area of human behavior representation, Context-based Reasoning and automated knowledge acquisition. The sum totals of these various DoD projects was over \$750,000. This proposal represents the natural extension of my work in tactical human behavior representation.

I have supervised to completion 10 doctoral students in Computer Engineering, 35 MS thesis students and seven Honors in the Major undergraduate theses.

Biographical Sketch – Dr. Massood Towhidnejad

(i) Professional Preparation

University of Central Florida Orlando, Florida	Electrical Engineering	MSE	1986
University of Central Florida Orlando, Florida	Computer Engineering	PhD	1990

(ii) Appointments

2004-Present	Chair Computer & Software Eng. Dept.: Embry-Riddle Aeronautical University
2003-2004	Visiting Scientists: NASA Goddard Space Flight Center
2000	Software Quality Assurance Manager: Carrier Corp. Electronic Div.
1999-Present	Professor and Tenure: Embry-Riddle Aeronautical University
1994	Visiting Scientists: Federal Aviation Administration
1993-1999	Associate Professor: Embry-Riddle Aeronautical University
1990-1993	Assistant Professor: Embry-Riddle Aeronautical University

(iii) Publications

- **A Case for Software Engineering** (with T. Hilburn) Proceedings of CSEET 2007, June 2007.
- **Multi-Disciplinary Unmanned Autonomous System Senior Project**, Proceedings of AIAA, Infotech Conference, May 2007.
- **A Case Study for Software Engineering Education** (with T. Hilburn, L. Shen, and S. Sumera) Proceedings of 2006 Frontier in Education (FIE 06), October 2006.
- **Challenges/Issues in a Industry-Academic Collaboration** (with J. Raghavan), Proceedings of 2006 American Society of Engineering Educator (ASEE 06) Annual Conference, June 2006.
- **Software Quality Through Requirement and Design**, Proceedings of 2006 International Conference in Frontier in Education (FEC 06), June 2006.
- **Software Requirement Phase for a Resource Utilization and Scheduling Tool** (with J. Raghavan), Proceedings of the 2005 International Conference on Software Engineering Research and Practice (SERP 05), July 2005.
- **How Does Software Engineering Fits into College of Engineering** (with T. Hilburn), Proceedings of the 2005 American Society of Engineering Education (ASEE 05) Annual Conference, June 2005.
- **Application of Fault Tree Analysis to Object Oriented Software Design** (with D. Wallace, and A. Gallo), *Proceedings of Software Engineering and Application (SEA 03)*, November 2003.
- **Fault Tree Analysis Application for Safety and Reliability** (with D. Wallace, and A. Gallo), *Proceedings of Software Assurance Symposium (SAS 03)*, July 2003.
- **Improving Software Quality via Software Fault Tree Analysis** (with D. Wallace, and A. Gallo), *Proceedings of Practical Software Quality Techniques (PSQT 03)*, June 2003.
- **Fault Tree Analysis for Software Design** (with D. Wallace, and A. Gallo), *Proceedings of Software Engineering Workshop (SEW-02)*, December 2002.
- **Incorporating Software Quality Assurance in Computer Science Education: An Experiment**, *Proceedings of the 2002 Frontiers in Education*, November 2002.
- **Software Quality Across the Curriculum** (with T. Hilburn), *Proceedings of the 2002 Frontiers in Education*, November 2002.
- **Tutorial: Software Quality Across Curriculum** (with T. Hilburn) Presented at the Conference of *Software Engineering Education and Training (CSEET 02)*, February 2002.
- **Integrating Personal Software Process (PSP) Across the Undergraduate Curriculum** (with T. Hilburn), *Proceedings of 1997 Frontiers in Education Conference*, November 1997.
- **Strengthening Software Engineering Education through Academic Industry Collaboration** (with A. Kornecki, I. Hirmanpour, R. Boyd, T. Ghiorzi, L. Margolis), *Proceedings of Tenth Conference on Software Engineering Education & Training (CSEE&T) Conference*, April 1997.

- **A Web-Based System for Automating Disciplined Personal Software Process (PSP)** (with I. Syu, A. Salimi, and T. Hilburn), *Proceedings of Tenth Conference on Software Engineering Education & Training (CSEE&T) Conference*, April 1997.
- **Panel: Personal Software Process in Computing Curriculum**, *Proceedings of Tenth Conference on Software Engineering Education & Training (CSEE&T) Conference*, April 1997.
- **Panel: Novel Approach to Introductory Computer Science Courses**, *Proceedings of the Second Annual CCSC Northeastern Conference*, April 1997.
- **Doing Quality Work: The Role of Software Process Definition in the Computer Science Curriculum** (with T. Hilburn), *Proceedings of Twenty-eighth SIGCSE Technical Symposium on Computer Science Education*, February 1997.
- **Incorporating a Disciplined Software Development Process In to Introductory Computer Science Programming Courses: Initial Results** (with A. Salimi), *Proceedings of 1996 Frontiers in Education Conference*, November 1996.
- **Applying Software Engineering Theory in Advanced Courses** (with Aman), *Proceedings of the First Annual CCSC Northeastern Conference*, April 1996.
- **Software Engineering Emphasis in Advanced Courses** (with J. Aman), *Proceedings of Twenty-seventh SIGCSE Technical Symposium on Computer Science Education*, February 1996.
- **Applications of Intelligent Computer Based Training System in the Aviation/Aerospace Training**, *The fifth National Conference on College Teaching and Learning*, April 1994.

(iv) Synergistic Activities

- **Principal Investigator:**
 - **Quality Assurance Regulatory Database**, Philips Medical Systems 2006 (b)(4)
 - **Software Quality Assurance Analysis**, VERITAS Software Corp. 2005
 - **Software Fault Tree Analysis**, NASA Goddard Space Flight Center 2004
 - **Automatic Knowledge Acquisition (AKA)**: Department of Transportation, Federal Aviation Administration 1994 (\$18K)
- **Co-Investigator:**
 - **Software Engineering Competency Study (Phase II)**: Department of Transportation, Federal Aviation Administration. 1999 (\$ K)
 - **Real-Time Systems Undergraduate Software Development Laboratory**, National Science Foundation - Instrumentation and Laboratory Improvement, 1995 (\$196k)
 - **Software Testing - FLEXIDE pager development environment**, Motorola, 1997 (b)(4)
 - **Software Testing - Flight Data Processing**, Lockheed Martin, 1996 (b)(4)
 - **Human Factor Issues, and Application of Artificial Intelligence to Traffic Flow Management**: Department of Transportation, Federal Aviation Administration 1994-1998 (\$750K)
- **Taught a variety of undergraduate and graduate courses and industry workshops on computer organization (digital logic, microprocessors, and computer architecture), artificial intelligence, software quality assurance and testing.**
- **Served as an Accreditation Board for Engineering and Technology (ABET) program evaluator**

(v) Collaborators & Other Affiliations

Dr. Tom Hilburn, Embry-Riddle Aeronautical University
 Dr. Andrew Komecki, Embry-Riddle Aeronautical University

UCF--FIPSE BRAZIL PROJECT TIMELINE

ACTIVITY	GY1		GY2		GY3	
	FALL	SPR	FALL	SPR	FALL	SPR
UCF/ERAU/UFRJ/PUCRS:DEV MOU RECIPROCAL AGREEMENTS						
UCF/ERAU/UFRJ/PUCRS: DEV MOU FACULTY EXCHANGE						
ERAU-DESIGN INTERNTL MINOR						
ERAU-DESIGN UG CERT COMPUTER SCIENCE						
UCF-DESIGN UG CERT ENGINEERING						
UCF-DESIGN LINC IN PORTUGUESE						
UCF-DESIGN LANGUAGE INSTITUTE PORTUGUESE						
UCF/ERAU/UFRJ/PUCRS: DESIGN ASSESSMENT PLAN						
UCF/ERAU/UFRJ/PUCRS:DETERMINE COURSE EQUIVALENCIES						
RECRUIT STUDENTS						
US FACULTY TRAVEL TO BRAZIL						
BRAZIL FACULTY TO US						
INPUT ASSESSMENT PLAN ON UCF IR WEBSITE						
COLLECT DATA FROM COHORTS						
UTILIZE ASSESSMENT DATA FOR IMPROVEMENT OF PLAN						
REVIEW COURSE EQUIVALENCIES						
STUDENTS ATTEND LANGUAGE INSTITUTE						
STUDENTS ENROLL IN INTERMEDIATE LEVEL CLASSES						
STUDENTS ENROLL IN INTENSIVE CLASS IN BRAZIL						
STUDENTS LEAVE FOR BRAZIL						
BRAZILIAN STUDENTS ARRIVE						
INDEP CONSULTANT VISIT						
FACULTY EXCHANGE PROGRAM						
STUDENT INTERNSHIPS IN US UPON RETURN						



Office of Internationalization
Academic Affairs

April 15, 2008

Sarah T. Beaton, Ph.D.
Fund for the Improvement of
Postsecondary Education,
U.S. - Brazil Higher Education Consortia Program
1990 K Street, NW., room #6154
Washington, DC 20006-8544

Dear Dr. Beaton:

The Office of Internationalization at the University of Central Florida enthusiastically endorses the FIPSE US-Brazil grant proposal, Engineering Global Leaders. The lead universities for this project are the University of Central Florida and the Universidade do Rio de Janeiro. The remaining two partners are Embry Riddle Aeronautical University and Pontificia Universidade Catolica do Rio Grande do Sul. Our partner institutions were chosen based on their excellent reputation of providing outstanding programs in engineering and computer science. One of the priorities for UCF's internationalization plan is to send our students abroad so that they are better prepared for their role as leaders in our global community. Even though the University has one of the highest enrollments of undergraduate students in the U.S, very few of our students can afford to go abroad. The College of Engineering and Computer Science added a Minor in International Engineering in Spring 2008 that requires study abroad. Since many of our engineering majors are minority students, we seek funding from FIPSE to send our engineering students abroad for up to three semesters.

As the PI for this proposal, I am committed to sustaining and expanding the agreements that will arise from the grant. Many of our students study in Europe, but very few participate in study abroad programs in Central or South America. We hope to reverse that trend. The Office of Internationalization maintains agreements with approximately 120 institutions abroad. Many of these agreements are reciprocal study abroad programs. UCF adheres to SACs requirements for accreditation and works very closely with its 11 colleges to identify the course equivalencies for the reciprocal programs. Students participating in reciprocal programs always pay tuition at the home institution.

P.O. Box 160084, Suite Millican Hall 350 • Orlando, Florida 32816-0084
(407) 882-0277 • FAX (407) 823-4546
An Equal Opportunity and Affirmative Action Institution

Upon completion of the funding period, UCF will continue to offer the International minor at the two partner institutions in Brazil in addition to promoting these sites for other majors as well. The University currently offers courses in elementary Portuguese and Accelerated Portuguese for Romance Language Speakers. We anticipate that the number of classes in Portuguese language will increase due to demand for the study abroad opportunities in Brazil. In a recent survey conducted in the fall, UCF students identified Brazil as one of their leading countries of interest. UCF has committed funds to promote its programs in Latin America. In 2006, the Hispanic Association of Colleges and Universities (HACU) invited UCF to participate in its mobility project with 14 universities in Latin America, Canada, and Spain. Based on our active participation in HACU, UCF has been invited to be a site for the Professional Development program sponsored by the Organization of Latin American Universities in addition to being asked to join the network of selected universities to promote language learning programs in Spanish, French, English, and Portuguese.

As this project strengthens UCF's five goals and our vision of becoming America's great metropolitan research university, you can be assured that we support the proposed international student exchanges and research and will work to sustain them long after the conclusion of the grant.

Sincerely,



Consuelo Stebbins
Assistant Vice-President



OFFICE OF THE PROVOST

600 S. CLYDE MORRIS BLVD.
DAYTONA BEACH, FL 32114-3900

T 386.226.6634 F 386.226.6299

April 14, 2008

Partners in International Engineering Education:

Embry-Riddle Aeronautical University is an enthusiastic partner institution working to ensure the success of the student exchanges that will begin between USA universities and Brazilian universities. As Director of Study Abroad Programs at ERAU, I have worked for over a decade to make sure that engineering students from Daytona Beach and from many partner schools in over 30 different countries are afforded exchange opportunities.

In 2001 an exchange agreement was signed between ERAU and PUCRS in Porto Alegre, Brazil for term exchanges and summer programs, but very few American students were able to acquire the necessary fluency in Portuguese to make the program work well. This new design addresses the language and cultural education component quite well, and adds to the curriculum an International Minor in Engineering. This proposed plan to better educate *Engineering Global Leaders* is well designed and should be very attractive for top students at each of our four institutions.

Embry-Riddle looks forward to working with the University of Central Florida, the Universidade Federal do Rio de Janeiro and the Pontificia Universidad Catolica do Rio Grande do Sul in this forward-looking enhancement for international engineering education.

Sincerely,

James M. Cunningham, Ed. D.
Assistant Provost
Director, Study Abroad Programs
(386) 226-6634
cunningj@erau.edu

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UNIVERSIDADE FEDERAL DO RIO DE JANEIRO
ESCOLA POLITÉCNICA
Gabinete do Diretor



Rio de Janeiro, 14 de abril de 2008.

Do: Diretor da Escola Politécnica da Universidade Federal do Rio de Janeiro – Poli/UFRJ
Prof. Ericksson Rocha e Almendra

Para: Coordenação de Cooperação Internacional – CAPES/CGCI
Ministério da Educação – Brasília – DF
Al. Sra. Fátima Battaglin

Assunto: Proposta de Projeto Final ao Edital CAPES/FIPSE

Título do Projeto: "Consórcio Brasil-Estados Unidos para a Formação de Líderes Internacionais em Engenharia".

Prezados Senhores:

Servimo-nos da presente carta para confirmar a concordância da Escola Politécnica com a realização do projeto "Consórcio Brasil-Estados Unidos para a Formação de Líderes Internacionais em Engenharia" junto ao seu corpo docente.

O projeto está sendo proposto pela Profa. Maria Karla Vervloet Soltero que responderá pela coordenação, auxiliada pelos Profs. Ricardo Manfredi Naveiro e Ângela Maria Gabriella Rossi, sendo o primeiro o vice-coordenador. Por outro lado, reafirmamos o compromisso no reconhecimento das disciplinas cursadas nas universidades estrangeiras.

Atenciosamente,

Professor ERICKSSON ROCHA E ALMENDRA
Diretor da Escola Politécnica da UFRJ

Escola Politécnica da UFRJ
Av. Athos da Silveira Ramos, 149 – Cidade Universitária
Prédio do Centro de Tecnologia – Bloco A – 2º andar – Sala 4
Praça do Fundão – CEP 21941-909 – Rio de Janeiro – RJ – Brasil
Tel: (55) 21 2562-7010/7312/7034/7065/7675
Fax: (55) 21 2562-7718



UNIVERSIDADE FEDERAL DO RIO DE JANEIRO

Rio de Janeiro, 15 de abril de 2008.

De: Pró-Reitora de Graduação da Universidade Federal do Rio de Janeiro
Profa. Belkis Valdman

À: Coordenação de Cooperação Internacional - CAPES/CGCI
Ministério da Educação - Brasília-DF
At. Sra. Fátima Battaglin

Prezados Senhores:

Declaramos, para os devidos fins, que a Pró-Reitoria de Graduação - UFRJ apóia integralmente o Projeto "Consórcio Brasil-Estados Unidos para a Formação de Líderes Internacionais em Engenharia", em parceria com a Universidade Católica do Rio Grande do Sul pelo lado brasileiro e, pelo lado americano, com a *University of Central Florida* e a *Embry Riddle Aeronautical University*.

O presente projeto busca desenvolver a cooperação internacional do campo da graduação, assim como promover a modernização do ensino de graduação através das experiências acadêmicas trocadas entre as universidades parceiras. Além disso, está previsto o reconhecimento e equivalência das disciplinas cursadas por nossos alunos nas instituições acadêmicas americanas associadas neste projeto.

Na expectativa de que esta proposta tenha êxito, e certos de estarmos contribuindo para a melhoria da qualidade do ensino de graduação, reiteramos o nosso compromisso de apoiar iniciativas como esta, voltada para a melhoria na formação de recursos humanos de nosso país.

Atenciosamente,

Pró-Reitora de Graduação da Universidade Federal do Rio de Janeiro
Profa. Belkis Valdman



Pontifícia Universidade Católica do Rio Grande do Sul
REITORIA
ASSESSORIA PARA ASSUNTOS INTERNACIONAIS E INTERINSTITUCIONAIS

Porto Alegre, 16 de abril de 2008.

De: Reitor da Pontifícia Universidade Católica do Rio Grande do Sul - PUCRS
Prof. Joaquim Clotet

À: Coordenação de Cooperação Internacional - CAPES/CGCI
Ministério da Educação - Brasília-DF
At. Sra. Fátima Battaglin

Prezada Senhora:

Declaramos, para os devidos fins, que a Pontifícia Universidade Católica do Rio Grande do Sul - PUCRS apóia integralmente o Projeto "**Consórcio Brasil-Estados Unidos para a Formação de Líderes Internacionais em Engenharia**", em parceria com a Universidade Federal do Rio de Janeiro pelo lado brasileiro e, pelo lado americano, com a *University of Central Florida* e a *Embry Riddle Aeronautical University*.

O presente projeto busca desenvolver a cooperação internacional do campo da graduação, assim como promover a modernização do ensino de graduação através das experiências acadêmicas trocadas entre os parceiros. Além disso, está previsto o reconhecimento e equivalência das disciplinas cursadas por nossos alunos nas instituições acadêmicas americanas associadas neste projeto.

Na expectativa de que esta proposta tenha êxito, e certos de estarmos contribuindo para a melhoria da qualidade do ensino de graduação, reiteramos o nosso compromisso de apoiar iniciativas como esta, voltada para a melhoria na formação de recursos humanos de nosso país.

Atenciosamente,

Prof. Joaquim Clotet

Reitor da Pontifícia Universidade Católica do Rio Grande do Sul



PUCRS

Campus Central
Av. Ipiranga, 6681 - P. 1 - sala 205 - CEP: 90619-900
Porto Alegre/RS Brasil
Fone: (55 51) 3320-3660 - Fax (55 51) 3320-3885
E-mail: aa11@pucrs.br Website: www.pucrs.br/adm/aa11



University of
**Central
Florida**

Office of the Provost and Executive Vice President

April 16, 2008

Sarah T. Beaton, Ph.D.
Fund for the Improvement of Postsecondary Education
U.S.-Brazil Higher Education Consortia Program
1990 K Street, N.W., room #6154
Washington, D.C. 20006-8544

Dear Dr. Beaton,

On behalf of the University of Central Florida, I am pleased to support UCF involvement in the FIPSE U.S.-Brazil proposal titled *Engineering Global Leaders*, intended to form reciprocal student exchange agreements among the partner institutions to increase student mobility.

The proposed university consortium (Embry-Riddle Aeronautical University, Universidade Federal do Rio de Janeiro, Pontificia Universidade Católica do Rio Grande do Sul, and UCF) establishes student and faculty exchanges between the U.S. and Brazil, building upon each institution's established record of excellence in their respective disciplines of engineering and computer science. The project will prepare engineering students to become successful members of their work forces and informed participants in our global community. The advantages inherent to the envisioned student exchange are beneficial for all participants and represent an extension to the existing educational programs at UCF and the other consortium members.

UCF commits to a reciprocal student exchange program established following internal procedures and consistent with accreditation requirements. The details of the reciprocal exchange program will be framed by a Memorandum of Understanding among the partners. Participants will be accepted to the program according to the criteria developed jointly by all consortium members during the planning period. Participants will pay tuition fees to their home institutions during their term abroad.

In summary, I reiterate my support for this proposal. This project complements one of UCF's goals to provide international focus to our curricula and research programs.

Sincerely,

Terry L. Hickey, Ph.D.
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An Equal Opportunity and Affirmative Action Institution

Budget Narrative

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Attachment 1:

Title: Pages: Uploaded File: **8402-Mandatory_Stebbins.FIPSE_Brazil_Budget_Narrative.pdf**

UCF – ERAU Budget Narrative

Project year one

Personnel (salary & wages):

We anticipate employing two adjunct language instructors during the summer of the first (and succeeding) years. This is necessary to ensure Portuguese language skills sufficient to attend classes in Brazil. We will also employ one adjunct faculty to teach the culture of Brazil in an immersion program with Portuguese language instructors. The fringe benefit rate of 1.45% of the salaries paid is the applicable rate at UCF for the status of employee.

Travel:

Each year two or more U.S. faculty will travel to Brazil for management of this program and to work jointly with Brazilian faculty in additional research projects and curriculum development. During year one we anticipate three faculty traveling to Brazil. Airfare is estimated at \$1164/round-trip flight, for a total of \$3492. We have budgeted two rental cars for use in Brazil at \$400 each, for a total of \$800. Local mileage, payable at the university rate of \$0.445/mile, has been estimated to be 600 miles, for a total of \$178. Parking for 20 days is estimated at \$10/day, to total \$200, and tolls of variable amounts, totaling \$75, are also included in this budget. Twenty hotel nights are included at \$137/night, totaling \$2740. This justification applies to all travel, both by UCF and by ERAU faculty.

Supplies (and materials):

In year one there are no supplies or materials budgeted in the program.

Indirect costs (F&A):

Indirect costs of 8% TDC were assessed per the U.S. Department of Education requirement.

Mobility stipends:

The first year there will be no mobility stipends, as no student travel out-of-country is anticipated.

Language stipends:

During the summer of the first year, students will be enrolled in an intensive immersion program in Portuguese on the UCF main campus; therefore, based on eight students at \$1000/student, we have allocated \$8000 to language stipends.

Matching costs:

UCF will be matching 5% of the three principle employees assigned to this project. Two of the employees match was based on 12-month employment, and one on a 9-month employment. The chart below details these costs for the life of the program. These costs have been escalated at 3% per year over the life of the program.

UCF Matching Funds

5% FTE	Year 1	Year 2*	Year 3*	Year 4*	Total					
Kassab salary***	(b)(4)									
Kassab fringe**										
Kassab Total										
Stebbins salary										
Stebbins fringe**										
Stebbins Total										
Gonzalez salary										
Gonzalez fringe**										
Gonzalez Total										
Total										
Grand Total Salary						(b)(4)				
Grand Total Fringe						(b)(4)				

* Salary and Fringe costs include a / annual escalation.
** Fringe Benefits are based on (b)() of applicable salary.
*** Figures for Kassab are based on a 9-month salary, Stebbins and Gonzalez are based on a 12-month salary.

Project year two

Personnel (salary & wages):

In project year two the same costs incurred in the first year will re-occur. Since the faculty employed are adjunct or OPS (Other Personnel Services) the rates will remain the same throughout the life of the program.

Travel:

Two or more U.S. faculty will travel to Brazil for management of this program and to work jointly with Brazilian faculty in additional research projects and curriculum development. During year two we anticipate two faculty traveling to Brazil. Airfare is estimated at \$1280/round-trip flight (cost escalated by 10% over first year), for a total of \$2560. We have budgeted two rental cars for use in Brazil at \$400 each, for a total of \$800. Local mileage, payable at the university rate of \$0.445/mile, has been estimated to be 353 miles, for a total of \$157. Parking for 18 days is estimated at \$10/day, to total \$180, and tolls of variable amounts, totaling \$85, are also included in this budget. Eighteen hotel nights are included at \$151/night, totaling \$2718. This justification applies to all travel, both by UCF and by ERAU faculty.

Supplies (and materials):

One thousand dollars has been budgeted to purchase classroom supplies, media, maps, and other artifacts for use in teaching language and culture.

Indirect costs (F&A):

Indirect costs of 8% TDC were assessed per the U.S. Department of Education requirement.

Mobility stipends:

Mobility stipends in the amount of \$32000 will be paid to participating students. This amount is based on 8 students at \$4000/student.

Language stipends:

During the summer of each year, students will be enrolled in an intensive immersion program in Portuguese on the UCF main campus; therefore, based on eight students at \$1000/student, we have allocated \$8000 to language stipends.

Matching costs:

UCF will be matching (b) of the three principle employees assigned to this project. Two of the employees match was based on 12-month employment, and one on a 9-month employment. These costs have been escalated at (b) per year over the life of the program.

Project year three

Personnel (salary & wages):

In project year three the same costs incurred in the first and second years will re-occur. Since the faculty employed are adjunct or OPS (Other Personnel Services) the rates will remain the same throughout the life of the program.

Travel:

Two or more U.S. faculty will travel to Brazil for management of this program and to work jointly with Brazilian faculty in additional research projects and curriculum development. During year three we anticipate two faculty traveling to Brazil. Airfare is estimated at \$1280/round-trip flight (cost escalated by 10% over first year), for a total of \$2560. We have budgeted two rental cars for use in Brazil at \$400 each, for a total of \$800. Local mileage, payable at the university rate of \$0.445/mile, has been estimated to be 353 miles, for a total of \$157. Parking for 18 days is estimated at \$10/day, to total \$180, and tolls of variable amounts, totaling \$85, are also included in this budget. Eighteen hotel nights are included at \$151/night, totaling \$2718. This justification applies to all travel, both by UCF and by ERAU faculty.

Supplies (and materials):

One thousand dollars has been budgeted to purchase classroom supplies, media, maps, and other artifacts for use in teaching language and culture.

Indirect costs (F&A):

Indirect costs of 8% TDC were assessed per the U.S. Department of Education requirement.

Mobility stipends:

Mobility stipends in the amount of \$32000 will be paid to participating students. This amount is based on 8 students at \$4000/student.

Language stipends:

During the summer of each year, students will be enrolled in an intensive immersion program in Portuguese on the UCF main campus; therefore, based on eight students at \$1000/student, we have allocated \$8000 to language stipends.

Matching costs:

UCF will be matching (b) of the three principle employees assigned to this project. Two of the employees match was based on 12-month employment, and one on a 9-month employment. These costs have been escalated at (b) per year over the life of the program.

Project year four

Personnel (salary & wages):

In project year four the same costs incurred in the first, second, and third years will re-occur. Since the faculty employed are adjunct or OPS (Other Personnel Services) the rates will remain the same throughout the life of the program. Additionally, an external consultant will be brought in the fourth year to conduct a program audit and evaluation for use by our staff in developing the final report. This cost is anticipated to be \$2500 and will be payable using the OPS method (with minimal fringe benefits).

Travel:

Two or more U.S. faculty will travel to Brazil for management of this program and to work jointly with Brazilian faculty in additional research projects and curriculum development. During year four we anticipate two faculty traveling to Brazil. Airfare is estimated at \$1536/round-trip flight (cost escalated by 10% over first year), for a total of \$3072. We have budgeted two rental cars for use in Brazil at \$400 each, for a total of \$800. Local mileage, payable at the university rate of \$0.445/mile, has been estimated to be 353 miles, for a total of \$157. Parking for 20 days is estimated at \$10/day, to total \$200, and tolls of variable amounts, totaling \$100, are also included in this budget. Twenty-one hotel nights are included at \$151/night, totaling \$3171. This justification applies to all travel, both by UCF and by ERAU faculty.

Supplies (and materials):

One thousand dollars has been budgeted to purchase classroom supplies, media, maps, and other artifacts for use in teaching language and culture.

Indirect costs (F&A):

Indirect costs of 8% TDC were assessed per the U.S. Department of Education requirement.

Mobility stipends:

Mobility stipends in the amount of \$32000 will be paid to participating students. This amount is based on 8 students at \$4000/student.

Language stipends:

During the summer of each year, students will be enrolled in an intensive immersion program in Portuguese on the UCF main campus; therefore, based on eight students at \$1000/student, we have allocated \$8000 to language stipends.

Matching costs:

UCF will be matching (b) of the three principle employees assigned to this project. Two of the employees match was based on 12-month employment, and one on a 9-month employment. These costs have been escalated at (b) per year over the life of the program.