# ARIZONA STATE UNIVERSITY

# PROPOSAL TO ESTABLISH A NEW UNDERGRADUATE CERTIFICATE

The completed and signed proposal should be submitted by the Dean's Office to: curriculumplanning@asu.edu.

Before academic units can advertise undergraduate certificates or include them in their offerings as described in the university catalogs, they must be recommended for approval by the Senate Curriculum and Academic Programs Committee and the University Senate, and be approved by the Executive Vice President and Provost of the University.

### Definition and minimum requirements:

These are the minimum requirements for approval. Individual undergraduate certificates may have additional requirements.

An undergraduate certificate is a programmatic or linked series of courses from a single field or one that crosses disciplinary boundaries and may be free-standing or affiliated with a degree program. The certificate provides a structured and focused set of courses that can be used to enhance a student's baccalaureate experience or professional development.

An undergraduate certificate program:

- Requires a minimum of 15 semester hours of which at least 12 semester hours must be upper division
- Requires a minimum grade of "C" or better for all upper division courses
- Consists of courses that must directly relate in whole or large part to the purpose of the certificate. Example: Geographic area certificates must include only courses specific to the title of the certificate, other than a non-English language
- Is cross disciplinary; or,
  - Certified by a professional or accredited organization/governmental agency; or,
  - Clearly leads to advanced specialization in a field; or,
  - Is granted to a program that does not currently have a major

Delivery method:	<b>On-campus</b> only (ground courses and/or iCourses)
<b>Requested effective Date:</b>	2017-18
Proposed Certificate Name:	Social Science Research Methods
Department/Division/School:	School of Human Evolution and Social Change
College/School/Institute:	College of Liberal Arts and Sciences

Note: Once students elect a campus or On-line option, students will not be able to move back and forth between the on-campus and the ASU Online options. Approval from the Office of the Provost and Philip Regier (Executive Vice Provost and Dean) is required to offer programs through ASU Online.

Campus/Locations:							
Indicate all locations where this program will be offered.							
	Downtown Phoenix	Polytechnic	Tempe	e 🗌 West Other:			
<b>Proposal Conta</b>	act						
Name:	H. Russell Bernard		Title:	Director, Institute for Social Science Research			
Phone numbe	er: 480-965-3518		Email:	asuruss@asu.edu			
		DEAN AP	PROVAL(	.(S)	100.7		
This proposal h	as been approved by all n	ecessary unit and Coll	ege/School	I levels of review. I recommend implementation	n of the		
proposed organ	nizational change.	·	C				
College/School	/Division Dean name:	PAUL	С.	LEPORE			

Signature	PlCZIZ	Date:	1/20 007 25, 2116
Signature		Date:	/ /20

Note: An electronic signature, an email from the dean or dean's designee, or a PDF of the signed signature page is acceptable.



#### 1. Overview

A. Provide a brief description of the new certificate.

This social science certificate program prepares students to acquire, manage, and analyze a broad range of data on human thought and human behavior, leveraging an array of qualitative and quantitative methods. Data acquisition skills may include the downloading and managing of information from online sources or the primary collection of data such as in surveys or in direct observation. A key feature of this program is a focus on data analysis skills, so graduates will be able to interpret properly any data that they can collect. The certificate provides demonstrated general competencies in statistical analysis relevant to any social research, plus skills in a selection of methods relevant to identified fields of enquiry.

- B. This proposed certificate (check one):
  - Is cross disciplinary; or
  - Is certified by a professional or accredited organization/governmental agency; or,
  - Clearly leads to advanced specialization in a field; or,
  - Is granted to a program that does not currently have a major.
- C. Why should this be a certificate rather than a concentration or a minor?

This certificate will be independent of any specific major. Students from a degree program as well as non-matriculated students anywhere in the world will be eligible to apply for enrollment in this certificate program.

D. Affiliation

If the certificate program is affiliated with a degree program, include a brief statement of how it will complement the program. If it is not affiliated with a degree program, incorporate a statement as to how it will provide an opportunity for a student to gain knowledge or skills not already available at ASU.

This program will allow students to take a set of courses across schools and disciplines. Certification in Research Methods is not currently available.

E. Demand

Explain the need for the new certificate (e.g., market demand, interdisciplinary considerations). This certificate will make students more competitive for a broad range of jobs. It will prepare students who elect to go into graduate school more competitive for fellowships.

### F. Projected enrollment

What are enrollment projections for the first three years?

	1 <sup>st</sup> Year	<b>2<sup>nd</sup> Year</b> (Yr. 1 continuing + new entering)	<b>3<sup>rd</sup> Year</b> (Yr. 1 & 2 continuing + new entering)
Number of Students (Headcount)	15	25	50



#### 2. Support and Impact

A. Faculty governance

Provide a supporting letter from the chair of the academic unit verifying that the proposed certificate has received faculty approval through appropriate governance procedures in the unit and that the unit has the resources to support the certificate as presented in the proposal, without impacting core program resources.

See attached

B. Other related programs

Identify other <u>related</u> ASU programs and outline how the new certificate will complement these existing ASU programs. (If applicable, statements of support from potentially-affected academic unit administrators need to be included with this proposal submission.)

See attached

C. Letter(s) of support

Provide a supporting letter from each college/school dean from which individual courses are taken.



#### 3. Academic Curriculum and Requirements

#### A.Knowledge, competencies, and skills

List the knowledge, competencies, and skills (learning outcomes) students should have when they complete this proposed certificate. Examples of program learning outcomes can be found at (http://www.asu.edu/oue/assessment.html).

Students enrolled in this certificate program will have the following learning outcomes:

1. Data Collection: Students will have skills in collecting a broad range of qualitative and quantitative data.

- 2. Data Analysis: Students will be able to manage, organize, and analyze any data set that can be collected.
- 3. Interpretation: Students will be able to interpret statistical output within relevant social science research domains.

#### **B.**Admissions criteria

List the admissions criteria for the proposed certificate. If they are identical to the admission criteria for the existing major and degree program under which this certificate will be established, please note that here.

Eligible enrollment will be admission to any degree program and postbaccalaureate students are also welcome to apply.

#### C.Curricular structure

Provide the curricular structure for this certificate. Be specific in listing required courses and specify the total minimum number of hours required for the certificate.

#### **Required certificate courses**

Prefix	Number	Title	Is this a new Course?	Credit Hours
STP	452	Multivariate Statistics Or Equivalent Statistics Course	No	3

Section sub-total: 3

#### Elective certificate courses

Prefix	Number	Title	Is this a new Course?	Credit Hours
		Choose any four upper-division courses from the distribution courses, see attached	No	
			No	
			(Select one)	
			(Select one)	

(Select one)

Section sub-total: 12



0	ther certificate requirements	Credit Hours
E.	g. – Capstone experience, internship, clinical requirements, field studies, foreign language skills as applicable	
	N/A	
	Capstone: ASB 499 Individualized Instruction OR Equivalent Capstone Course	3
	Section sub-total:	3
	Total minimum credit hours required for certificate	18
D.	Minimum residency requirement How many hours of the certificate must be ASU credit? 9 credit hours	
E.	New Courses Provide a brief course description for each new course.	

N/A

Note: All new required courses should be submitted in Curriculum Changemaker and ready for Provost's Office approval before this certificate is put on Curriculum and Academic Programs Committee (CAPC) agenda.



#### 4. Administration and Resources

#### A. Administration

How will the proposed certificate be administered (including admissions, student advisement, retention, etc.)? Program will be initially launched in School of Human Evolution and Social Change but potentially will rotate through other areas/disciplines.

B. Resources

What are the resource implications for the proposed certificate, including any projected budget needs? Will new books, library holdings, equipment, laboratory space and/or personnel be required now or in the future? If multiple units/programs will collaborate in offering this certificate please discuss the resource contribution of each participating program. Letters of support must be included from all academic units that will commit resources to this certificate.

Contracted agreement to hire four tenure-track faculty, half of whose teaching commitment will be to assist with the Institute for Social Science Research's programs.

#### C. Primary Faculty

List the primary faculty participants regarding this proposed certificate. For interdisciplinary certificates, please include the relevant names of faculty members from across the University.

Name	Title	Area(s) of Specialization as they relate to proposed certificate	
Monica Gaughan	Associate Professor, SHESC	Inequality and demographic analysis	
Michael Barton	Professor, SHESC	Complexity and systems science	
Amber Wutich	Associate Professor, SHESC	Social network analysis, qualitative methods	
Abigail York	Associate Professor, SHESC	Environmental social science	
H Russell Bernard	Professor, SHESC	Qualitative research methods	
Dan Hruschka	Associate Professor, SHESC	Multivariate qualitative methods	

#### 5. Additional Materials

A. Complete and attach the Appendix document.

- B. Provide one or more model programs of study (if appropriate).
- C. Attach other information that will be useful to the review committees and the Office of the Provost.

#### APPENDIX

#### **OPERATIONAL INFORMATION FOR UNDERGRADUATE CERTIFICATES**

(This information is used to populate the Degree Search/catalog website.

Please consider the student audience in creating your text.)

#### A. Proposed Certificate Name: Social Science Research Methods

#### B. Description (150 words maximum)

This certificate program prepares students to acquire, manage and analyze a broad range of data on human thought and human behavior. Data can be qualitative (e.g., text, images, sound) or quantitative (e.g., direct observation, surveys, GIS). Data acquisition skills may include the downloading and managing of information from online sources or the primary collection of data in surveys or by direct observation. A key feature of this program is a focus on data analysis so that students will be able to analyze any data they collect. All students in this program will demonstrate skills in statistical analysis plus skills in a selection of methods related to their interests.

### C. Contact and Support Information

Building Name, code and room number: ( <u>Search ASU map</u> )	COOR 5516
Program office telephone number: (i.e. 480/965-2100)	480/965-5005
Program Email Address:	issrinfo@asu.edu
Program Website Address:	https://issr.asu.edu/

D. **Program Requirements:** Provide applicable information regarding the program such as curricular restrictions or requirements, specific course lists, or academic retention requirements.

Students must complete 18 credit hours. A minimum of "C" grade (2.00 on a 4.00 scale) is required.

#### **Required Course (3 credit hours)**

STP 452 Multivariate Statistics (3) OR an equivalent course\*

#### Electives (12 credit hours; choose any four upper division courses from the following list)

- AML 441 Mathematical Concepts and Tools in Sustainability (3)
- ASB 430 Social Simulation, CS (4)
- FAS 361 Research Methods, L or SB (3)
- FAS 460 Leadership, Research, and Collaboration in Community Change (3)
- FAS 461 Community Action Research Experience Research Internship (3)
- SOC 389 Ethnographic Field Lab (3) [the unit credit ranges from 1-6]
- SOC 391 Research Methods, L or SB (3)
- SOC 433 Applied Demography, SB (3)
- GCU 373 Introduction to Geographic Information Science, SG (4)
- GCU 442 Geographical Analysis of Transportation, SB (3)
- GCU 496 Geographic Research Methods, L (3)
- GIS 311 Geographic Information Science II, CS (4)
- GIS 321 Programming Principles in GIS (3)
- GIS 322 Spatial Data Structures and Algorithms (3)
- GIS 341 Introduction to Cartography and Georepresentation, CS (3)
- GIS 351 Air Photo Interpretation (3)
- GIS 431 Spatial Databases (3)
- GIS 441 Geographics: Interactive and Animated Cartography and Geovisualization, CS (3)
- GIS 461 Optimization Fundamentals for Spatial Analysis (3)
- GIS 462 Location Analysis and Modeling (3)
- GIS 470 Statistics for Geographers, CS (3)
- GIS 471 Geographic Information Analysis (3)
- GIS 472 Spatial Regression Analysis (3)
- PUP 424 Planning Methods (4)
- PUP 481 Optimization Fundamentals for Spatial Analysis (3)
- PUP 482 Location Analysis and Modeling (3)
- POS/SGS 401 Political Statistics, CS (3)
- POS 301/SGS 305 Empirical Political Inquiry, SB (3)



- STP 310 Design and Analysis of Experiments (3)
- STP 311 Regression and Time Series Analyses (3)
- STP 315 Statistical Computing (3)
- STP 420 Introductory Applied Statistics, CS (3)
- STP 429 Experimental Statistics, CS (3)
- STP 450 Nonparametric Statistics (3)
- STP 460 Categorical Data Analysis (3)

#### **Required Capstone Course (3 credit hours)**

ASB 499 Individualized Instruction (3) or an equivalent capstone course\*

\*Other courses may fulfill this requirement. Students should see an academic advisor to choose an equivalent course based on their academic goals.

Depending upon a student's undergraduate program of study, prerequisite courses may be needed in order to complete the requirements of this certificate.

- E. Additional Admission Requirements If applicable list any admission requirements (freshman and/or transfer) that are higher than and/or in addition to the university minimum undergraduate admission requirements.)
   Admission to the certificate is open to any major and postbaccalaureate students are also welcome to apply. All students must meet university admission requirements.
- F. Delivery/Campus Information Delivery:

On-campus only (ground courses and/or iCourses)

Note: Once students elect a campus or On-line option, students will not be able to move back and forth between the on-campus and the ASU Online options. Approval from the Office of the Provost and Philip Regier (Executive Vice Provost and Dean) is required to offer programs through ASU Online.

#### G. Campus/Locations:

Ind	icate all locations where	this pro	ogram will be o	ffered.			
	Downtown Phoenix		Polytechnic	$\boxtimes$	Tempe	West	Other:



August 18, 2016

To whom it may concern,

The School of Human Evolution and Social Change approves and fully supports the proposal to establish the Undergraduate Certificate in Research Methods.

Please let me know if you need any materials or more commentary from us.

Yours sincerely,

Alexandra Brewis Slade, PhD. Director and President's Professor

School of Human Evolution and Social Change an academic unit of the College of Liberal Arts and Sciences PO Box 872402 Tempe, AZ 85287-2402 (480) 965-6215 Fax: (480) 965-7671 shesc.asu.edu

### **Christopher Stojanowski**

From: Sent: To: Cc: Subject: Alexandra Brewis Slade Friday, August 19, 2016 4:46 PM Richard Fabes Christopher Stojanowski Re: ISSR certificate

Thanks

On Aug 19, 2016, at 1:01 PM, Richard Fabes <<u>rfabes@asu.edu</u>> wrote:

Hi -- with these changes, we have no objections to this and support moving it forward.

曲

Best,

Rick

On 8/18/16, 3:07 PM, Alexandra Brewis Slade wrote:

Of course. Done already. A

On Aug 18, 2016, at 8:23 AM, Richard Fabes <<u>rfabes@asu.edu</u>> wrote:

So are you OK with making the changes I suggested -- deleting the classes that are not appropriate and adding SOC 390 into the selected core rather than the grad class?

On 8/17/16, 4:39 PM, Alexandra Brewis Slade wrote:

Ok, thanks. Will await your update. A

Alex,

I'm going to have to run the list of classes by our Measurement and Stat Group. I am doubtful they will agree to our doctoral level regression class being one of the core options. A better option is SOC 390.

I'm attaching a revised list of classes. Some of the classes you list are not available (some are online or are

special program courses). SOS classes are not ours.

I can't give approval without getting input from our group given what is listed here and I have a good sense of what their reaction is going to be.

Rick

#### On 8/17/16, 4:10 PM, Alexandra Brewis Slade wrote:

Dear Elsie, Cameron, Rick, and Trisalyn,

Happy new semester! As part of the ISSR initiatives, we have been working with Libby and Russ on an (online) undergraduate certificate in social research methods. This is the partner to the graduate certificate that was approved (with SGSUP as lead) last year. The one required course is multivariate stats, which the new hires Libby has been working on (attached to Russ's hire) will provide. The rest of the courses will be drawn from the available/applicable set of courses offered by SS units.

I am traveling the next few days, but can chat by cell (480 789-1415) with anyone who would like to learn more. We can also discuss at our next SS forum.

Right now, I am asking for your unitlevel approval with the attached, so we can move the paperwork forward to the college. An email approval is all that is needed.

Thank you so much Alex

From: Christopher Stojanowski <<u>Christopher.Stojanowski@asu.edu></u> Date: Wednesday, August 17, 2016 at 3:39 PM To: Alex Brewis <Alex.Brewis@asu.edu>

#### **Christopher Stojanowski**

From: Sent: To: Cc: Subject: Alexandra Brewis Slade Tuesday, August 23, 2016 11:55 AM Richard Herrera Christopher Stojanowski Re: ISSR Certificate

Thank you!

From: Richard Herrera <Richard.Herrera@asu.edu> Date: Tuesday, August 23, 2016 at 11:52 AM To: Alex Brewis <Alex.Brewis@asu.edu> Subject: ISSR Certificate

Alex,

The School of Politics and Global Studies support the creation of a certificate in Social Science Research Methods. We request that the following courses from the SPGS be added to the certificate:

1

SGS 401 POS 301

This certificate is a welcome opportunity for our majors.

Thanks, Rick Herrera

Richard Herrera Associate Director, School of Politics and Global Studies Director, Capital Scholars Program University Coordinator, ASU-McCain Institute Internship Program Associate Professor School of Politics and Global Studies Arizona State University Tempe, AZ 85287-3902 Phone: 480-965-1331 Begin forwarded message:

From: Trisalyn Nelson <<u>Trisalyn.Nelson@asu.edu</u>> Date: August 18, 2016 at 12:22:23 AM MST To: Alexandra Brewis Slade <<u>Alex.Brewis@asu.edu</u>> Subject: RE: ISSR certificate

Dear Alex, Thanks for the email. Yes SGSUP supports this request. Thanks, Trisalyn

From: Alexandra Brewis Slade
Sent: August 17, 2016 4:10 PM
To: Cameron Thies <<u>CAMERON.THIES@asu.edu</u>>; Elsie Moore <<u>Elsie.Moore@asu.edu</u>>;
Richard Fabes <<u>rfabes@asu.edu</u>>; Trisalyn Nelson <<u>Trisalyn.Nelson@asu.edu</u>>
Cc: Christopher Stojanowski <<u>Christopher.Stojanowski@asu.edu</u>>
Subject: FW: ISSR certificate

Dear Elsie, Cameron, Rick, and Trisalyn,

Happy new semester! As part of the ISSR initiatives, we have been working with Libby and Russ on an (online) undergraduate certificate in social research methods. This is the partner to the graduate certificate that was approved (with SGSUP as lead) last year. The one required course is multivariate stats, which the new hires Libby has been working on (attached to Russ's hire) will provide. The rest of the courses will be drawn from the available/applicable set of courses offered by SS units.

I am traveling the next few days, but can chat by cell (480 789-1415) with anyone who would like to learn more. We can also discuss at our next SS forum.

Right now, I am asking for your unit-level approval with the attached, so we can move the paperwork forward to the college. An email approval is all that is needed.

Thank you so much Alex

### **Christopher Stojanowski**

From:	Albert Boggess <boggess@asu.edu></boggess@asu.edu>
Sent:	Saturday, August 20, 2016 5:25 AM
То:	Alexandra Brewis Slade
Cc:	Christopher Stojanowski; John Stufken
Subject:	Re: email of approval SoMSS

Alex,

Thanks for your query. John Stufken and I support the creation of this certificate.

Good luck ...

Al

On Fri, Aug 19, 2016 at 2:44 PM, Alexandra Brewis Slade <<u>Alex.Brewis@asu.edu</u>> wrote: Dear Al,

SHESC is working with ISSR and Russ Bernard to propose an undergrad certificate in social research methods. Russ tells me he been staying in touch with John Stufken as he has planned this wider social research methods initiative.

At this stage we are seeking approval from your unit to submit the attached proposal to CLAS. If acceptable, I just need an email indicating.

Let me know if you have questions, etc.

Thanks Alex

### **Alissa Ruth**

From:	Sherry Thurston
Sent:	Wednesday, October 19, 2016 1:52 PM
То:	Alexandra Brewis Slade; Alissa Ruth; Christopher Stojanowski
Subject:	FW: FOLLOW-UP Proposal to Establish a New Undergraduate Certificate in Social
	Science Research Methods

Here is the Poly approval. Thank you! Sherry

## **Sherry Thurston**

Business Operations Specialist Asst to Director, H. Russell Bernard Institute for Social Science Research – Coor 5516 P: 480.965.5005 | F: 480.965.5077 Sherry.thurston@asu.edu Issr.asu.edu

From: Duane Roen
Sent: Wednesday, October 12, 2016 9:18 AM
To: H. Russell Bernard <asuruss@asu.edu>
Cc: Alissa Ruth <Alissa.Ruth@asu.edu>; Alexandra Brewis Slade <Alex.Brewis@asu.edu>; Sherry Thurston
<Sherry.Thurston@asu.edu>; Christopher Stojanowski <Christopher.Stojanowski@asu.edu>
Subject: RE: FOLLOW-UP -- Proposal to Establish a New Undergraduate Certificate in Social Science Research Methods

#### CISA is happy to support this program.

 Duane Roen

 Vice Provost, Polytechnic campus

 Dean, College of Integrative Sciences and Arts

 Dean, University College

 Arizona State University

 College of Integrative Sciences and Arts | cisa.asu.edu

 University College | universitycollege.asu.edu

 Mail Code: 2780

 7271 E Sonoran Arroyo Mall

 Mesa, AZ 85212-6415

 P: 480-727-6513

 Image: Im

From: H. Russell Bernard
Sent: Wednesday, October 12, 2016 9:14 AM
To: Duane Roen
Cc: Alissa Ruth; Alexandra Brewis Slade; Sherry Thurston; Christopher Stojanowski
Subject: FOLLOW-UP -- Proposal to Establish a New Undergraduate Certificate in Social Science Research Methods

Dear Duane:

Thank you for the quick turnaround on our proposal. We found an error in the proposal and have been asked to send it around again, with the change. There are two required, 3-credit courses in the the 18 credit certificate program: a course on multivariate statistics (or the equivalent) and a capstone course in which the student desigtns and carries out a research project. We had included, in error, the option of taking an introductory course in statistics instead of the course on multivariate stats. That error is fixed in the attached.

The course in multivariate statistics can be taken in any unit, but will be taught regularly by new faculty hires coming on this year. The rest of the courses in the certificate program are drawn from research methods courses offered by academic units across ASU. The certificate will be housed in the School of Human Evolution and Social Change but will comprise courses from any school offering advanced social science methods courses.

This is to request your approval and support for the new certificate. You can find a preliminary list of undgraduate courses on social research methods <u>HERE</u>. This is just a sample list. Thank you for suggesting other courses that can be added to the menu and please let us know if there are any new methods courses developed in your college in the future.

With regards, russ bernard

H. Russell Bernard Director, Inst. for Social Science Research Arizona State University <u>http://nersp.osg.ufl.edu/~ufruss/</u>

## **Alissa Ruth**

From:	Sherry Thurston
Sent:	Wednesday, October 19, 2016 1:51 PM
То:	Alissa Ruth; Alexandra Brewis Slade; Christopher Stojanowski
Subject:	Undergraduate Certificate approval

Hi All,

We just got this letter of support from West Campus for the undergraduate certificate in Social Science Research Methods. I'll send along Dr. Roen's approval as well in a separate email.

Let me know if there is anything further I can do to get this going!

Thank you! Sherry

# **Sherry Thurston**

Business Operations Specialist Asst to Director, H. Russell Bernard Institute for Social Science Research – Coor 5516 P: 480.965.5005 | F: 480.965.5077 Sherry.thurston@asu.edu Issr.asu.edu

From: Todd Sandrin
Sent: Wednesday, October 19, 2016 1:33 PM
To: H. Russell Bernard <asuruss@asu.edu>
Cc: Sherry Thurston <Sherry.Thurston@asu.edu>; Marlene Tromp <Marlene.Tromp@asu.edu>
Subject: RE: undergraduate certificate

Dear Russ,

We anticipate no negative impact on our academic programs. Furthermore, as the Director of our School of Social and Behavioral Sciences notes in the email I append below, New College is delighted by the inclusion of social science research courses from across the university as well as the flexible structure of the certificate that allows students to take classes for the certificate on different campuses.

Best regards, Todd

#### Todd R. Sandrin, Ph.D.

Professor, School of Mathematical and Natural Sciences Senior Associate Dean, ASU New College | Director, NCUIRE



4701 W. Thunderbird Rd. | Glendale, AZ 85306 602.543.6934 | Todd.Sandrin@asu.edu From: Greg Wise
Sent: Wednesday, October 19, 2016 1:04 PM
To: Todd Sandrin <<u>Todd.Sandrin@asu.edu</u>>
Subject: RE: undergraduate certificate

Dear Todd,

We are pleased at the inclusion of social science research courses from across the university in the proposal for the Certificate, and the flexibility for students to take classes for the certificate on different campuses. I have attached a list of such courses that we offer that are not listed currently on the website for the certificate and which we would like to see listed. We do not foresee a negative impact on our course enrollments.

Greg

Dr. J. Macgregor Wise Interim Director, School of Social and Behavioral Sciences Professor of Communication Studies New College of Interdisciplinary Arts and Sciences Arizona State University 4701 West Thunderbird Road Glendale, AZ 85306-4908 (602) 543 6646; (602) 543 4565 (fax) http://newcollege.asu.edu https://newcollege.asu.edu/sbs