

The completed and signed proposal should be submitted by the Dean’s Office to: curriculumplanning@asu.edu. Before academic units can advertise undergraduate minors 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 approved by the University Provost.

Definition and minimum requirements:

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

A minor is an approved, coherent focus of academic study in a single discipline, other than the student’s major, involving substantially fewer hours of credit than a corresponding major. Certain major and minor combinations may be deemed inappropriate either by the college or department of the major or minor. Inappropriate combinations include (but would not be limited to) ones in which an excessive number of courses in the minor are simultaneously being used to fulfill requirements of the student’s major.

A minor:

- Requires a minimum of 15 semester hours of which at least 9 semester hours must be upper division
- Is not intended for students pursuing a major in the department which offers the minor

College/School/Institute: College of Integrative Sciences and Arts

Department/Division/School:

Proposing Faculty Group (if applicable): Interdisciplinary Humanities and Communication

Proposed Minor Name: History of Science, Ideas and Innovation

Requested effective date: 2017-2018

Delivery method: 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 University 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 West Other:

Proposal Contact

Name:	Ian Moulton	Title:	Professor and Faculty Head, Interdisciplinary Humanities and Communication
Phone number:	(480)727-1172	Email:	ian.moulton@asu.edu

DEAN APPROVAL(S)

This proposal has been approved by all necessary unit and College/School levels of review. I recommend implementation of the proposed organizational change.

College/School/Division Dean name: Duane Roen

Signature  **Date:** 7-25-2016

College/School/Division Dean name:
(if more than one college involved)

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. Description

Provide a brief description of the proposed minor.

Science and technology shape every facet of modern human life, but all too frequently, the underlying histories, ideas, and human values go unexamined. The History of Science, Ideas and Innovation minor helps students understand how we got to this point (and helps them reflect on what the future might hold), by providing them with a grounding in the social and intellectual issues central to understanding the intertwined histories of science, technology and ideas from past to present.

B. Why should this be a minor rather than a concentration?

This minor will benefit students outside the History and the proposed History of Science, Ideas, and Innovation majors at ASU, by encouraging students from any major to learn and reflect upon the histories of science, technology, and their ideological underpinnings. Students with a background in STEM/science and engineering majors, in particular, will gain an historical understanding of the social and cultural contexts of science and technology. It is not simply a collection of courses within a major, as a concentration is.

C. Affiliation

If the minor 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.

The minor will directly complement the proposed History of Science, Ideas, and Innovation major by helping to introduce non-majors to the work of the major. It fits well with the STEM-oriented programs on the Polytechnic campus, and will also bolster numbers in courses offered as part of the proposed major.

D. Demand

Explain the need for the new minor (e.g., market, student demand, interdisciplinary considerations).

The History of Science, Ideas, and Innovation minor will help students from STEM fields, in particular, connect their science and technology-focused learning to broader historical and ideological humanistic trends. That STEM employers are looking for more well-rounded graduates, with exposure to humanistic as well as technological training, is well-known to the point of being a truism. This minor will help graduates bridge that gap in a way that is innovative and applicable, yet recognizably humanities-centered.

E. Projected Enrollment

What are enrollment projections for the first three years?

	1st Year	2nd Year (Yr. 1 continuing + new entering)	3rd Year (Yr. 1 & 2 continuing + new entering)
Number of Students <i>(Headcount)</i>	5	10	15

2. Support and Impact

A. Faculty governance

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

B. Other related programs

Identify other related ASU programs and outline how the new minor 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.)

Letter(s) of support

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

See attachment.

3. Student Learning Outcomes and Assessment Methods

A. Knowledge, competencies, and skills

List the knowledge, competencies, and skills students should have when they graduate from the proposed degree program. You can find examples of program Learning Outcomes at (<https://uoeee.asu.edu/plan-outcomes>).

1. Research Skills: Students minoring in the History of Science, Ideas and Innovation will demonstrate the ability to identify and analyze primary and secondary sources in contemporary and historical contexts.

2. Argumentation: Students minoring in the History of Science, Ideas and Innovation will be able to advance and support an argument about the past in written or oral forms.

3. Students minoring in the History of Science, Ideas and Innovation will be able to demonstrate an awareness of the nature and goals of an historical discipline, including an awareness of the complexity of the past and the uncertainty of the historical record.

4. Students minoring in the History of Science, Ideas and Innovation will be able to demonstrate knowledge and problem-solving skills in analyzing contemporary and historical events related to science, ideas, innovation, and technology.

B. Assessment

Describe the plan and methods to assess whether students have achieved the knowledge, competencies and skills identified in the Learning Outcomes. You can find examples of assessment methods at (<https://uoeee.asu.edu/creating-plan>).

Learning Outcomes 1-4 will be measured using a Direct Measure of the student's written work in HST 280. Learning Outcomes 1-4 will also be measured using an Indirect Measure, consisting of a student survey/focus group and/or exit surveys or interviews upon graduation.

4. Academic Curriculum and Requirements

A. Provide a description of the curricular requirements for the minor. Be specific in listing required courses as well as electives and specify the total minimum number of hours required for the minor. Please attach one or more model programs of study to illustrate the choices students might make, if appropriate.

Required Minor Courses

Prefix	Number	Title	Is this a new course?	Credit Hours
HST	280	History of Science, Ideas and Innovation	Yes	3
			(Select one)	
			(Select one)	
			(Select one)	
			(Select one)	
			Section Sub-total	3

Elective Minor Courses

Prefix	Number	Title	Is this a new course?	Credit Hours
HST	309	Exploration and Empire	No	3
HST	318	History of Engineering	No	3
HST	319	History of Aviation	Yes	3
HST	345	Environmental History	No	3
HST	380	Studies in the History of Science (repeatable when topics vary)	Yes	3

HST	381	Studies in the History of Ideas (repeatable when topics vary)	Yes	3
HST	382	Studies in the History of Innovation and Technology (repeatable when topics vary)	Yes	3
HST	482	Writing and the History of Science, Ideas and Technology (repeatable when topics vary)	Yes	3

Section Sub-total 12

Other Minor Requirements

E.g. – Capstone experience, internship, clinical requirements, field studies, foreign language skills as applicable Credit Hours

Section Sub-total 0

Total minimum credit hours required for the Minor 15

A. *Minimum residency requirement*
How many hours of the minor must be ASU credit? 12

B. New Courses

Provide prefix, number and a brief course description for each new course.

HST 280 History of Science, Ideas and Innovation (3).

Fast-paced introduction to the intertwined histories of science, ideas and technological innovation, as they shape the globe from the ancients to the present.

HST 380 Studies in the History of Science (3).

Major themes in the history of science with varying topics.

HST 381 Studies in the History of Ideas (3).

Major themes in the history of ideas with varying topics.

HST 382 Studies in the History of Innovation and Technology (3).

Studies the development and impact of innovation processes and technology on society, culture, and environment throughout history. Specific themes and topics vary.

HST 482 Writing and the History of Science, Ideas and Technology (3).

Writing-intensive course examines intersections between texts and major themes in the history of science and technology.

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

5. Administration and Resources

A. Describe the procedures and any qualifications for enrollment in the minor.

No additional qualifications; ordinary minor advising/enrollment procedures will be followed.

B. Describe the advising procedures as well as measures for verification of completion of the minor.

Ordinary College of Integrative Sciences and Arts minor advising/enrollment procedures will be followed.

C. What are the resource implications for the proposed minor, 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 minor, 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 minor.

None additional required.

D. Primary Faculty

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

Name	Title	Area(s) of Specialization as they relate to proposed minor
Eric Nystrom	Assistant Professor	History of Engineering, Science, Technology
Eric Oberle	Assistant Professor	History of Ideas
Leandra Swanner	Assistant Professor	History of Science
Valerie Adams	Lecturer	History of Aviation, History of Engineering
Debra Neill	Instructor	History of Engineering, Science/Exploration, Science, Ideas

6. Additional Materials

- A. Appendix
Complete and attach the Appendix document.
- B. Program of study
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 University Provost.

**APPENDIX
OPERATIONAL INFORMATION FOR MINORS**

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

Please consider the student audience in creating your text.)

Proposed Minor Name: **History of Science, Ideas and Innovation**

3. Description (150 words maximum)

Science and technology shape every facet of modern human life, but all too frequently, underlying histories and ideas go unexamined. The history of science, ideas and innovation minor program helps students understand how we got to this point (and helps them reflect on what the future might hold) by providing them with a grounding in the social and intellectual issues central to understanding the intertwined histories of science, technology and ideas from past to present.

4. Contact and Support Information

Building Name, code and room number: (*Search ASU map*) SANCA 251A

Program office telephone number: (*i.e. 480/965-2100*): 480/727-1172

Program Email Address: cisa@asu.edu

Program Website Address: <https://cisa.asu.edu>

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

A minimum of 15 credit hours is required.

Required Minor Course (3 credit hours)

HST 280 History of Science, Ideas and Innovation (3)

Elective Minor Courses (12 credit hours minimum; choose four):

HST 309 Exploration and Empire (3)

HST 318 History of Engineering (3)

HST 319 History of Aviation (3)

HST 345 Environmental History (3)

HST 380 Studies in History and Science (repeatable when topics vary) (3)

HST 381 Studies in History and Ideas (repeatable when topics vary) (3)

HST 382 Studies in the History of Innovation and Technology (repeatable when topics vary) (3)

HST 482 Writing and the History of Science, Ideas, and Technology (repeatable when topics vary) (3)

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

6. Additional Enrollment Requirements If applicable list any additional enrollment requirements students must complete

Students in most majors may pursue at least one minor, and upon successful completion of the prescribed course work, have that accomplishment officially recognized on the ASU transcript at graduation if the college or department of the minor officially certifies, through established verification procedures, that all requirements for the minor have been met and the college (and in certain colleges, the department) of the student's major allows the official recognition of the minor.

A student wishing to pursue a specific minor should consult an academic advisor in the unit offering that minor to ensure that an appropriate set of courses is taken. The student should also consult an academic advisor in the college or department of the major to make sure the college or department of the major allows the recognition of the minor.

Note: Certain major and minor combinations may be deemed inappropriate either by the college or department of the major or minor. Courses taken as part of a minor may not count toward both the major degree and the minor. Please contact the department for more information.

7. 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 University Provost and Philip Regier (Executive Vice Provost and Dean) is required to offer programs through ASU Online.

8. Campus/Locations: indicate all locations where this program will be offered.

- Downtown Phoenix Polytechnic Tempe West Other:

Impact statements for: BA and Minor, History of Science, Ideas and Innovation

CLS Curriculum committee approved the BA, and Minor Proposal in the History of Science, Ideas and Innovation on May 18, 2016.

From: David Guston
Sent: Monday, June 20, 2016 3:06 AM
To: Duane Roen <Duane.Roen@asu.edu>
Subject: Re: Major and Minor in History of Science, Ideas and Innovation

Duane

The School for the Future of Innovation in Society welcomes this proposal and looks forward to opportunities to collaborate with the faculty delivering this curriculum and create synergies between our programs and these new ones.

Please keep me posted on its development, and let me know if there is anything I can assist with.

Best

Dave

From: Ann McKenna
Sent: Monday, June 13, 2016 5:32 PM
To: Duane Roen <Duane.Roen@asu.edu>
Subject: Re: BA and Minor Proposal: History of Science, Ideas, and Innovation

Hi Duane,

Yes we also support the minor.

Ann

-----Original Message-----

From: George Justice [<mailto:George.Justice@asu.edu>]
Sent: Thursday, March 17, 2016 2:48 PM
To: Duane Roen <Duane.Roen@asu.edu>
Subject: Re: BA and Minor Proposal: History of Science, Ideas, and Innovation

Dear Duane,

Given that you have told us these will not be iCourses, we support the courses as well as the proposed major and minor.

Best,
George

From: Todd Sandrin
Sent: Monday, May 02, 2016 4:32 PM
To: Duane Roen
Subject: RE: Proposal for HST Concentration in Politics, War, and Diplomacy

No problem, Duane.

I append below an email exchange that includes statements from Dean Tromp and the Director of our School of Humanities, Arts & Cultural Studies (Louis Mendoza) indicating that New College foresees no negative impacts of the HST concentration CLS proposes.

Don't hesitate to let me know if I can help further.

Best regards,

Todd

–

Todd R. Sandrin, Ph.D.

Professor – School of Mathematical and Natural Sciences

Associate Dean – New College | Director - NCUIRE

New College | Arizona State University

(602) 543-6934 | Todd.Sandrin@asu.edu | Lab - <http://sandrin-lab.asu.edu>

_From: Marlene Tromp

Sent: Thursday, February 18, 2016 5:30 PM

To: Duane Roen <Duane.Roen@asu.edu>

Cc: Todd Sandrin <Todd.Sandrin@asu.edu>

Subject: FW: BA and Minor Proposal: History of Science, Ideas, and Innovation

Dear Duane,

Please see below. I support this degree as well.

Sincerely,

Marlene

Dr. Marlene Tromp, Vice Provost and Dean

New College of Interdisciplinary Arts and Sciences

4701 W. Thunderbird Rd., Glendale, AZ 85306-4908

P.O. Box 37100, M/C 1251, Phoenix AZ 85069-7100

Arizona State University

Office: 602-543-7000 Fax: 602-543-7070

marlene.tromp@asu.edu

newcollege.asu.edu

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From: Louis Mendoza <Louis.G.Mendoza@asu.edu>
Date: Thursday, February 18, 2016 at 4:25 PM
To: Marlene Tromp <marlene.tromp@asu.edu>
Subject: Re: BA and Minor Proposal: History of Science, Ideas, and Innovation

We have reviewed the attached proposal for a BA in the history of Science, Ideas, and Innovation and the proposed new courses and we see no areas of negative impact on our program. We support the establishment of this BA and the new courses.

Louis

Dr. Louis Mendoza, Director

School of Humanities, Arts, and Cultural Studies

New College of Interdisciplinary Arts and Sciences

4701 W. Thunderbird Rd., FAB N201

Glendale, AZ 85306-4908

P.O. Box 37100, MC 2151, Phoenix AZ 85069-7100

Arizona State University

Office: 602-543-6242

<https://newcollege.asu.edu/humanities-arts-cultural-studies-degree-programs>

From: Duane Roen <Duane.Roen@asu.edu>
Date: Monday, February 15, 2016 at 8:10 PM
To: Marlene Tromp <marlene.tromp@asu.edu>, Todd Sandrin <Todd.Sandrin@asu.edu>
Subject: BA and Minor Proposal: History of Science, Ideas, and Innovation

Marlene and Todd,

I'm writing to you to request impact statements for a proposed major, minor, and five courses.

Attached is a proposal for a new BA in the History of Science, Ideas, and Innovation that the College of Letters and Sciences plans to offer at the Polytechnic campus.

I've also attached the proposal for an accompanying minor.

There are also five proposals for new courses attached, all necessary for the new degree:

HST 280 History of Science, Ideas, and Innovation

HST 380 Studies in History and Science: Scientific Controversies

HST 381 Studies in the History of Ideas

HST 382 Studies in the History of Innovation and Technology

HST 482 Writing and the History of Science, Ideas, and Technology

If you are willing to support the major, minor, and the five new courses, please indicate so in a brief reply to this message.

Thank you for considering this request.

Best,

Duane

Duane Roen

Vice Provost, Polytechnic campus

Dean, College of Letters and Sciences

Dean, University College

Arizona State University

480-727-6513

duane.roen@asu.edu