

COURSE CHANGE APPLICATION

University of Washington
Curriculum Review Committee

For Office Use Only:

Prefix (new if changing,
6 characters max.)

INTSCI

Number
(new if changing)

401

Offered jointly with:

College or School Arts & Sciences	Department Integrated Sciences	Date Nov. 10, 2014
Course Title (list existing title or new title if changing) Integrated Sciences Practicum		Credits (list existing credits or new credits if changing) 3

1. PURPOSE OF REQUEST (Check all that apply)

- ☒ Permanent change, to be effective Spring Quarter 2015 _____
☐ Temporary change, to be effective _____ Quarter 20 _____ through _____ Quarter 20 _____

	OLD (CURRENT) DATA	NEW DATA
<input type="checkbox"/> Change prefix and/or number		
<input type="checkbox"/> Change course title *		
<input type="checkbox"/> Change abbreviated title (19 spaces max.) *(Must be changed if changing course title, type in CAPS)		
<input checked="" type="checkbox"/> Change credits	2	3
<input type="checkbox"/> Change prerequisites <input type="checkbox"/> Enforce prerequisite cancellation		

- ☐ Add joint status
☐ Change course description
☐ Change to permanent CR/NC only
☐ Change contact hours
☐ Add course to the following approved major/minor elective lists:
☐ Drop course
- ☐ Drop joint status
☒ Change Areas of Knowledge (only if changing course content)
☒ Drop permanent CR/NC only
☐ Allow course to be offered with DL status (Must also complete section 7)
☐ Add Equivalency Status (Must also complete section 10)

Attach a course syllabus/outline and reading list if requesting an increase in course level or credits or a substantial change in content.

2. JUSTIFICATION and CONTACT INFORMATION

Explain why this change is being proposed, including its relationship to your overall curriculum and what comes before and after the course. Please list contact information for individual(s) submitting this application. (Attach additional sheet if necessary.)

To better reflect the amount of time students put in outside of class instruction for readings, assignments, and at their practicum site, we would like to increase INTSCI 401 from 2 credits to 3 credits. We would also like to change this course from CR/NC grading to standard grading and change the course to I&S. (See attached syllabus for evaluation information and course content.)

Contact Name: Meghan Oxley	Phone: 206-543-5447	Email: what@uw.edu	Box #: 351560
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3. CATALOG DATA/COURSE DESCRIPTION (Complete only if changed. Must be double spaced.)

Check all applicable Areas of Knowledge categories ☐ VLPA ☒ I&S ☐ NW ☐ QSR ☐ C ☐ QSR ☐ DIV
(50-word limit)

Exploration of professions in formal or informal science education, science writing, science policy, and other areas that require an integrated science perspective. Examples include weekly visits to a science classroom, organization, or museum. Analysis of practicum experiences through discussion of scientific communication, human learning, and classroom engagement and equity.

Optional Catalog information (include only if you want this information listed in the General Catalog description):

Names and ranks of probable instructors (Include curriculum vitae for any instructor not now on the University faculty)

Quarter(s) offered (A, W, Sp, S) _____

COMPLETE OTHER SIDE OF THIS FORM**4. CREDITS AND HOURS**

- a. Instructional and Additional hours: *1 credit represents a total time commitment of 3 hours per week of student effort.*

Instructional hours per week (complete 7a instead of 4a if course offered only as a DL course.		
Lecture _____	Laboratory _____	
Quiz section _____	Studio _____	
Seminar <u>1</u>	*Other _____	1
*Attach explanation and justification for "other" instructional hours.		
TOTAL WEEKLY INSTRUCTIONAL HOURS:		
How many hours in addition to the instructional hours will a student be expected to spend each week in preparation for this course?		7-8
TOTAL WEEKLY ADDITIONAL HOURS:		
TOTAL WEEKLY INSTRUCTIONAL AND ADDITIONAL HOURS:		8-9

- b. If variable credit, how will the number of credits awarded be related to the amount of student effort required?

N/A

- c. How will students be evaluated for credit or grades? Provide specific information on assignments, projects, exams, etc. and relative % for each area. See attached syllabus.

5. STUDENTS

- a. Anticipated enrollment per quarter 15

- b. Types of students expected: ☒ Undergraduate Majors/Minors ☐ Graduate Students ☐ Non-Matriculated Students
☒ Undergraduate non-majors ☐ Professional Students

6. LEARNING OBJECTIVES

By the end of the course, students will demonstrate the ability to:
 See attached syllabus.

7. DISTANCE LEARNING

If there will be sections of the course that are delivered where more than 50% of instruction occurs outside of a classroom or without the immediate physical presence of faculty or a teaching assistant, attach a syllabus for the DL course as well as the in-classroom syllabus, if both are planned.

- a. Instructional and Additional hours: *1 credit represents a total time commitment of 3 hours per week of student effort.*

Instructional hours per week in-classroom		Instructional hours per week distance learning		
Lecture _____	Laboratory _____	Interactive Lecture _____	Live Chat _____	
Quiz section _____	Studio _____	Recorded Lecture _____	Discussion Board _____	
Seminar _____	*Other _____	*Other _____		
*Attach explanation and justification for "other" instructional hours.		*Attach explanation and justification for "other" instructional hours.		
TOTAL WEEKLY INSTRUCTIONAL HOURS:				
How many additional hours will a student be expected to spend each week in preparation for this course?		TOTAL WEEKLY ADDITIONAL HOURS:		
		TOTAL WEEKLY INSTRUCTIONAL AND ADDITIONAL HOURS:		

- b. what are the specific means of content delivery used in the distance learning portions of the course?

- c. will the course be offered in a ☐ synchronous (students work through the material at the same, pre-determined pace) or ☐ asynchronous (students work through material at their own pace) mode?

d. If this DL course is also being offered as a separate version in the classroom, please describe how the DL and in-classroom instructor will coordinate expected learning outcomes, examinations, and grading.

- e. How will examinations be administered securely? Describe safeguards for academic integrity.

- f. Describe how students will receive feedback throughout the course and how student learning will be assessed.

- g. How will students interact with the instructor and other students? Will there be any face-to-face meetings with the instructor and other students?

8. JOINT COURSE

List all departments, schools, or colleges participating. Joint course applications require a signature from each unit.
(If units from more than one school or college participate, a separate application must be filed by each.)

Name of unit (List the unit responsible for administering the course first)	Course prefix and number	New Course	Existing Course	Signature of chair/director

9. OTHER COLLEGES, SCHOOLS, OR DEPARTMENTS AFFECTED

If this course includes subject matter currently dealt with by any other University units, the originating department must circulate this application for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this application.

Name of unit	Signature of dean/chair/director

10. COURSE EQUIVALENCY

Courses requesting to be approved as equivalent to a course on one or more University of Washington campuses must have the chair/dean/director of each unit currently offering the course to sign below. More information about course equivalency can be found on the Curriculum Office website:
<http://depts.washington.edu/registra/curriculum/FCASpolicies.php#EquivalentCourses>

Name of unit	Equivalent Course(s) (if applicable)	Recommend approval	Recommend disapproval (attach explanation)	Signature of dean/chair/director

11. APPROVAL

Date

Chair/Director of submitting department/unit

11/12/14

College Curriculum Committee

12/1/14

College Dean/Vice Chancellor

12/1/14

INTSCI 401: Integrated Sciences Practicum

Course Syllabus & Schedule - Autumn Quarter

Course Syllabus

Overview: INTSCI 401: Integrated Sciences Practicum (3 credits) - Exploration of professions in formal or informal science education, science writing, science policy, and other areas that require an integrated science perspective. Examples include weekly visits to a science classroom, organization, or museum. Analysis of practicum experiences through discussion of scientific communication, human learning, and classroom engagement and equity. (Courtesy of UW Course Catalog)

Autumn Quarter INTSCI 401 will focus on the integration of science, learning, and teaching in both formal and informal social institutions. Participants will complete forty hours of practicum activities (typically during a single quarter) and engage in a reflective learning community with fellow practicum students. The first portion of the course will introduce “lenses” for analyzing practicum experiences, and the second portion will guide the development of oral and written presentations.

Goals - We will:

1. Familiarize ourselves with frameworks for understanding human learning in both formal and informal social institutions.
2. Use these frameworks as “lenses” for analyzing our practicum experiences, as well as our own strategies for learning, teaching, and communicating.
3. Engage collaboratively in reflection and discussion with our peers, building toward individual presentations of practicum experiences and perspectives.
4. Value a broad science background, and develop our own perspectives on the integration of science, learning, and teaching.

Instructor: Brian J. Buchwitz, Ph.D.; Hitchcock Hall 216; bjb@uw.edu

Required Resources:

- [*How Students Learn: Science in the Classroom*](#) by M. Suzanne Donovan and John D. Bransford, Editors; Committee on How People Learn: A Targeted Report for Teachers; National Research Council (*The National Academies Press* 2005) (Free PDF)
- [*Surrounded by Science: Learning Science in Informal Environments*](#) by Marilyn Fenichel and Heidi A. Schweingruber; Board on Science Education; Center for Education; Division of Behavioral and Social Sciences and Education; National Research Council (*The National Academies Press* 2010) (Free PDF)
- Binder or folder for organizing and retaining course materials

Meetings:

- Classes: Fridays, 8:30-9:50 a.m., Physics/Astronomy Auditorium A-214
- Conferences: By appointment
- Office Hours: Fridays, 10:00-10:50 a.m., Hitchcock Hall 216, and by appointment

INTSCI 401: Integrated Sciences Practicum
Course Syllabus & Schedule - Autumn Quarter

Expectations:

- Participate fully in course activities. This includes preparing for class, asking questions and contributing during class, and completing assignments on time and with best effort.
- Show respect for all individuals and demonstrate responsibility in groups. Many activities in science education, communication, and policy are collaborative in nature.
- Take advantage of opportunities to incorporate feedback and to grow as a science student, teacher, and communicator.
- Communicate clearly and regularly with peers, instructors, and supervisors. For example, if you are unable to participate in class (e.g., illness, family emergency), email the instructor before class or as soon as possible.
- Conduct yourself with academic honesty. Do not deprive yourself of opportunities to learn.

Evaluation and Grading: Instructor- and self-evaluations will focus on identifying strengths and areas for improvement, recognizing contributions to our learning community, and assessing effort and growth. Your lowest score for class activities will be dropped. Your final grade will be determined from class activities (25%), discussions (25%), reflections (25%), and presentations (25%). You must retain all course materials, including class activities, reflections, and presentations.

Access and Accommodations: Your experiences in this course are important to us, and it is our policy and practice to create inclusive and accessible learning environments. If you have a temporary or permanent disability that may require accommodations, please seek a meeting with [UW Disability Resources for Students](#). If you have already established accommodations with DRS, please communicate your approved accommodations to the instructor as soon as possible so that we can discuss your needs in this course.

Guides, Policies, and Resources: Check the course website, under Pages, for additional guides, policies, and resources, including [Attributing Credit & Avoiding Plagiarism](#), [Collaborating Online](#), [Searching for Scientific Literature](#), and [Submitting Assignments & Viewing Feedback](#).

We look forward to an experiential and reflective quarter!

INTSCI 401: Integrated Sciences Practicum
Course Syllabus & Schedule - Autumn Quarter

Course Schedule

The schedule is subject to instructor announced changes. Check the course website and your email regularly for announcements and assignments.

Week	Class Activities
1	Reflecting on Learning Science; Introducing INTSCI 401 and Our Learning Community; Introducing Our Peers; Reflecting on Practicum Goals
2	Reflecting on Practicum Opportunities; Defining Principles of Learning; Applying Principles of Learning to Science Education
3	Observing and Volunteering Effectively and Professionally; Discussing "Description and Assurance of Classroom Observation" Form; Defining and Applying Strands of Informal Science Learning
4	Promoting Student Engagement and Classroom Equity; Building Science Identity in Informal Environments
5	Discussing "Empirically Validated Strategies to Reduce Stereotype Threat" by Greg Walton, Geoff Cohen, and Claude Steele; Jigsawing Research on Growth Mindset and Stereotype Threat; Revisiting INTSCI 401 and Our Learning Community
6	Sharing Our Experiences and Perspectives; Developing Integrated Sciences Perspectives; Defining Our Presentation Goals
7	Revisiting Frameworks & Presenting Elevator Talks; Applying "Lenses" to Our Practicum Experiences
8	Presenting Our "Hallway Talks"; Commenting on One Another's Hallway Talks
9	Integrating Science, Learning, and Teaching; Applying "Lenses" to Our Practicum Experiences; Developing Our Presentation Strategies
10	UW Holiday - Thanksgiving
11	Presenting Our Experiences and Perspectives; Reflecting on INTSCI 401, Our Learning Community, and Future Directions

INTSCI 401: Integrated Sciences Practicum
Course Syllabus & Schedule - Autumn Quarter

Readings and References: Unless otherwise noted, readings and references are from [*How Students Learn: Science in the Classroom*](#) and [*Surrounded by Science: Learning Science in Informal Environments*](#) (see Required Resources). To access additional readings and references, click the associated entries.

Week	Readings and References
1	Course Website
2	"Introduction" by M. Suzanne Donovan and John D. Bransford (Pages 1-26) in <i>How Students Learn: Science in the Classroom</i>
3	"Informal Environments for Learning Science" and "Science and Science Learning" by Marilyn Fenichel and Heidi A. Schweingruber (Pages 1-34) in <i>Surrounded by Science: Learning Science in Informal Environments</i>
4	"Structure Matters: Twenty-One Teaching Strategies to Promote Student Engagement and Cultivate Classroom Equity" by Kimberly D. Tanner (CBE--Life Sciences Education 2013 12:322-331) ; "Interest and Motivation: Steps Toward Building a Science Identity" by Marilyn Fenichel and Heidi A. Schweingruber (Pages 81-101) in <i>Surrounded by Science: Learning Science in Informal Environments</i>
5	"The Secret to Raising Smart Kids" by Carol S. Dweck (Scientific American Mind 2007 18:36-43) ; "The Power of Belief: Mindset and Success" by Eduardo Briceño (TEDx Talks 2012) (Video)
6	"FRONTLINE: Secrets of the SAT - Interview with Claude Steele" (WGBH Educational Foundation 1999) ; "Stereotype Threat: A Conversation with Claude Steele" (Not in Our Schools 2013) (Video)
7	"Making Science Understandable to a Broad Audience" by Richard M. Reis (The Chronicle of Higher Education 1999)
8	"Communication: Two Minutes to Impress" by Roberta Kwok (Nature 2013 494:137-138)
9	"Scientific Inquiry and How People Learn" by John D. Bransford and M. Suzanne Donovan (Pages 397-419) in <i>How Students Learn: Science in the Classroom</i>
10	Revisit: Readings Relevant to "Presenting Our Experiences and Perspectives"
11	"Pulling Threads" by M. Suzanne Donovan and John D. Bransford (Pages 569-590) in <i>How Students Learn: Science in the Classroom</i>

Assignments: To access discussions, reflections, and presentations, click the associated calendar events. Unless otherwise noted, discussions and reflections are due on Wednesdays at 11:59 p.m. You will submit most assignments electronically using UW Canvas. Additional instructions will be provided by the instructor, and online assistance is available from the associated help centers.