Term Information

Effective Term	Spring 2018

General Information

Course Bulletin Listing/Subject Area	Chemistry
Fiscal Unit/Academic Org	Chemistry - D0628
College/Academic Group	Arts and Sciences
Level/Career	Undergraduate
Course Number/Catalog	1622
Course Title	Peer-led Team Learning for Chemistry 1620 students
Transcript Abbreviation	PLTL for Chem 1620
Course Description	Provides a structure with which students can work actively in groups of 6 to 8 peers on challenging chemistry problems. This course will integrate with topics covered in Chemistry 1620. The activities will be challenging and relevant to course material and groups will work to discuss, collaborate, and answer questions in the activity.
Semester Credit Hours/Units	Fixed: 1

Offering Information

Length Of Course	14 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Satisfactory/Unsatisfactory
Repeatable	No
Course Components	Workshop
Grade Roster Component	Workshop
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites	Concur: 1620
Exclusions	Not open to students with credit for 2510, 2610, or 2910H
Electronically Enforced	No

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	40.0501
Subsidy Level	General Studies Course
Intended Rank	Freshman

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- Help students work actively on rich chemistry problems to facilitate learning of chemistry 1620 content.
- Work effectively with a diverse group of peers to solve challenging chemistry problems
- Build community among 1st year chemistry majors in the Department of Chemistry & Biochemistry

Content Topic List

- Properties of Solutions
- Chemical Kinetics
- Chemical Equilibrium
- Acid Base Equilibrium
- Additional Aspects of Aqueous Equilibria
- Chemical Thermodynamics
- Electrochemistry
- Transition Metals and Coordination Chemistry
- Nuclear Chemistry

Sought Concurrence

No

Attachments

- PLTL- 1622 Syllabus.docx: Syllabus

  (Syllabus. Owner: Sutherland,Laura Nicolle Romrell)
- CHEM Curricular Map - Version 1.pdf: Curriculum Map

  (Other Supporting Documentation. Owner: Sutherland,Laura Nicolle Romrell)
- BA in Chemistry Sample Curriculum Plan.docx: CHEM-BA Curriculum Plan

  (Other Supporting Documentation. Owner: Sutherland,Laura Nicolle Romrell)
- BS in Chemistry Sample Curriculum Plan.docx: CHEM-BS Curriculum Plan

  (Other Supporting Documentation. Owner: Sutherland,Laura Nicolle Romrell)
- BA in Biochemistry Sample Curriculum Plan.docx: BIOCHEM-BA Curriculum Plan

  (Other Supporting Documentation. Owner: Sutherland,Laura Nicolle Romrell)
- BS in Biochemistry Sample Curriculum Plan.docx: BIOCHEM-BS Curriculum Plan

  (Other Supporting Documentation. Owner: Sutherland,Laura Nicolle Romrell)
- CHEM 1622- Answers to Anticipated Questions.docx: Answers to Anticipated Questions

  (Other Supporting Documentation. Owner: Sutherland,Laura Nicolle Romrell)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Sutherland,Laura Nicolle Romre	06/07/2017 08:53 AM	Submitted for Approval
Approved	Gustafson,Terry Lee	06/07/2017 08:55 AM	Unit Approval
Approved	Haddad,Deborah Moore	06/07/2017 09:36 AM	College Approval
Pending Approval	Nolen,Dawn Vankeerbergen,Bernadette Chantal Hanlin,Deborah Kay Jenkins,Mary Ellen Bigler	06/07/2017 09:36 AM	ASCCAO Approval

CHEMISTRY 1622 – SPRING 2018

Peer-led Team Learning for CHEM1620

THE OHIO STATE UNIVERSITY

1-credit hour, S/U graded
Mandatory corequisite: Chemistry 1620

Course Instructor: Dr. Faculty Office: Email:

PLTL Coordinator: TBD
Office: 120B Celeste Lab Email: TBD
Peer Leader: As assigned
Workshop meetings: Once weekly for 1.5 hours, rooms as assigned

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Required Materials: The course materials will be provided at the Workshop and through Carmen. The Chemistry 1620 textbook (Chemistry, The Central Science (13th Ed), Brown, LeMay, Bursten, Murphy, Woodward, & Stoltzfus) is strongly recommended.

Course Description: The Chemistry 1622 course provides a structure with which students can work actively in groups of 6 to 8 peers on challenging chemistry problems. This course will integrate with topics covered in Chemistry 1620. Workshops include groups of students discussing and solving challenging chemistry problems related to material covered in Chemistry 1620.

Activities for the workshops will be written and provided by the PLTL coordinator. The activities will be challenging and relevant to course material and groups will work to discuss, collaborate and answer questions in the activity. No answer keys will be provided, as groups are expected to reach consensus through thoughtful discussion. Workshops are not a recitation time, not extra teaching time nor a time for exam reviews. Students are expected to attend and participate in all Workshops using the activities provided. Workshops will meet weekly and peer leaders will facilitate groups.

Peer leaders are students that have successfully and recently completed chemistry 1610 and 1620 at Ohio State. Peer leaders are trained and meet weekly outside of the Workshops to learn how to properly facilitate activities. Peer leaders work to encourage groups to work together to solve problems. Peer leaders are not there to give answers, are not tutors, teachers nor recitation instructors. Rather their role is to facilitate group discussion and collaboration.

Course Goals: The goals of this course are meant to compliment the goals of the corequisite course Chemistry 1620.

- To help students work actively on rich chemistry problems to facilitate learning of chemistry 1620 content.
- Work effectively with a diverse group of peers to solve challenging chemistry problems.
- To build community among 1st year chemistry majors in the Department of Chemistry & Biochemistry.

Participation and Attendance: The main purpose of this course is to promote scientific reasoning through active learning. The active learning sessions happen through group

discussion and thus it is imperative that all students attend each Workshop and participate fully. Points will be awarded for participation and attendance. Students will receive full credit (10 points) for attending and participating in a weekly Workshop. Participate is defined as actively engaging in discussion with peers. Peer leaders will assess participation for group members. Students will receive half credit (5 points) for attending but not participating in a weekly Workshop. Students will receive no credit (0 points) for not attending a weekly Workshop.

Course Points:
12 Workshops at 10 points each for a total of 120 points.

Course Grade: This course will be graded Satisfactory/Unsatisfactory (S/U). Students must attend at least 75% of the Workshops earning a minimum of 75% of the points possible (90 points out of 120 points) in order to receive a Satisfactory (S) grade.

Course Content Structure: The content for the Workshops will follow closely with the content covered in Chemistry 1620. An outline of topics is listed below.

Lecture Topics	
Chapter 13	**Properties of Solutions (Ch. 13.1-13.6):** The solution process; saturated solutions and solubility; factors affecting solubility; expressing solution concentration; colligative properties; colloids
Chapter 14	**Chemical Kinetics (Ch. 14.1-14.7):** Factors that affect reaction rates; reaction rates; concentration and rate laws; the change of concentration with time; temperature and rate; reaction mechanisms; catalysts
Chapter 15	**Chemical Equilibrium (Ch. 15.1-15.7):** The concept of equilibrium; the equilibrium constant; heterogeneous equilibria; calculating equilibrium constants (ICE tables); applications of equilibrium constants; Le Châtelier's principle
Chapter 16	**Acid Base Equilibria (Ch. 16.1-16.11):** Acids and bases review; acid-base equilibria; Brønsted-Lowry acids and bases; the pH Scale; the autoionization of water; the pH scale; strong acids and bases; weak acids and bases; relationship between K_a and K_b; acid-base
Chapter 17	**Additional Aspects of Aqueous Equilibria (Ch. 17.1-17.6):** Common ion effect; buffered solutions; acid-base titrations; solubility equilibria and K_{sp} ; Factors that affect solubility; selective precipitation of ions; qualitative analysis for metal elements
Chapter 19	**Chemical Thermodynamics (Ch. 19.1-19.7)** Spontaneous processes; entropy and the 2nd law of thermodynamics; molecular interpretation of energy and the third law of thermodynamics; entropy changes in chemical reactions; Gibbs free energy; free energy: temperature, K; entropy changes in chemical reactions; Gibbs free energy; free energy and temperature; free energy and the equilibrium constant
Chapter 20	**Electrochemistry (20.1-20.9)** Oxidation states and oxidation-reduction reactions; balancing redox reactions; voltaic cells; cell potentials under nonstandard standard conditions; Free energy and redox reactions; cell potentials under nonstandard conditions; batteries and fuel cells; corrosion; electrolysis
Chapter 23	**Transition Metals and Coordination Chemistry (23.1-23.6)** The transition metals; transition metal complexes; ligands; nomenclature; isomerism; color and magnetism of transition metal compounds; crystal field theory
Chapter 21	**Nuclear Chemistry (21.1-21.9)** Radioactivity; patterns of nuclear stability; nuclear transmutations; rates of radioactive delay; energy changes in nuclear reactions; nuclear fission and fusion; radiation in the environment and living systems

Disability Services: The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. **SLDS contact information:** slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Commitment to Diversity: The Department of Chemistry and Biochemistry promotes a welcoming and inclusive environment for all students and staff, regardless of race, gender, ethnicity, national origin, disability or sexual orientation. There is no tolerance for hateful speech or actions. All violations of this policy should be reported to the OSU Bias Assessment and Response Team (BART, studentaffairs.osu.edu/bias). The Department encourages diversity at all levels, particularly among the next generation of scientists. Students are encouraged to participate in organizations that provide support specifically for science and engineering students who are African-American, Asian, disabled, Hispanic, LGBTQ or women. These organizations are listed on the Colleges of Arts and Sciences (artsandsciences.osu.edu/stem-organizations) and Engineering (engineering.osu.edu/studentorgs) websites.

Violations of academic standards in General Chemistry will be referred to the University Committee of Academic Misconduct (COAM) as required by Faculty Rules. It is the responsibility of COAM to investigate all reported cases of student academic misconduct; illustrated by, but not limited to, cases of plagiarism and any dishonest practices in connection with examinations, quizzes, and graded assignments. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information see the Code of Student Conduct: **http://studentaffairs.osu.edu/pdfs/csc_12-31-07.pdf**

The Bachelor of Arts Degree in Chemistry (B.A.)

The Bachelor of Arts curriculum is intended for students who want a background in Chemistry as a basis for future work in other areas of science, such as the life sciences, or in professional areas such as medicine, pharmacy or veterinary science.

- General Chemistry 1610–1620 and Organic Chemistry 2610–2620 are the recommended sequences for chemistry and biochemistry majors, although qualified students are urged to take Honors sequences instead.
- Chemistry 1612 & 1622 are highly recommended. They provide a structure in which students can work actively in groups of 6 to 8 peers to enhance learning.
- The major is completed with **nine (9) hours of advanced science electives**, which must include **at least three (3) hours of upper level chemistry or biochemistry coursework.**

Examples of some approved science electives include:

- Chem 3510 (Inorganic - 3)
- Chem or Biochem 4998/4999 (Research)
- Chem 5420 (Organic Spectroscopy - 1.5)
- Chem 5430 (Carbohydrates - 3)
- Chem 5440 (Computational - 3)
- Chem 5520 (Nanochemistry - 3)
- Biochemistry 4511 (4)
- Microbiology 4000 (4)
- Molecular Genetics 4500 (3)
- Most 2000-4000 level courses in Mathematics
- Other non-required graded Chem and Biochem 4000-6000 level courses
- Approved 4000-6000 level courses in Microbiology, Molecular Genetics, Physics, Food Science, and EEOB

- Undergraduate Research (Chem or Biochem 4998/4999) is recommended. A maximum of six (6) hours of research may be used to fulfill the requirements of the major.

Autumn Semester (Year 1)		Spring Semester (Year 1)	
General Chemistry 1 (1910H, 1610, 1210)	5	General Chemistry 2 (1920H, 1620, 1220)	5
PLTL in Gen Chem (1612)	1	PLTL in Gen Chem (1622)	1
Calculus 1 (Math 1151)	5	Calculus 2 (Math 1152)	5
GE Elective	3-4	GE Elective (*Biology 1113*)	4
Freshman Survey	1	GE Elective	3
	15-16		18
Autumn Semester (Year 2)		**Spring Semester (Year 2)**	
Analytical Chemistry 1 (2210)	5	Organic Chemistry 2 (2920H, 2620, 2520)	4
Organic Chemistry 1 (2910H , 2610, 2510)	4	Organic Chemistry Laboratory 2 (2550)	2
Organic Chemistry Laboratory 1 (2540)	2	Physics 2 (1201 or 1251)	5
Physics 1 (1200 or 1250)	5	GE Elective	3
	16		14
Autumn Semester (Year 3)		**Spring Semester (Year 3)**	
Physical Chemistry 1 (Biochem 5721)	3	Physical Chemistry 2 (Biochem 5722)	3
Advanced Science Elective (Chem/Biochem)	3-4	Physical Chemistry Laboratory (4410)	3
Elective	3	Elective	3
GE Elective	4	GE Elective	4
GE Elective	3	GE Elective	3
	16-17		16
Autumn Semester (Year 4)		**Spring Semester (Year 4)**	
Advanced Science Elective	3	Advanced Science Elective	3
Elective	3	Elective	3
Elective	3	GE Elective	3
GE Elective	3-4	GE Elective	3
		GE Elective	3
	12-13		15

The Bachelor of Science Degree in Chemistry (B.S.)

The Bachelor of Science curriculum is designed for students seeking to become professional chemists.

- General Chemistry 1610–1620 and Organic Chemistry 2610–2620 are the recommended sequences for chemistry and biochemistry majors, although qualified students are urged to take Honors sequences instead.
- Chemistry 1612 & 1622 are highly recommended. They provide a structure in which students can work actively in groups of 6 to 8 peers to enhance learning.
- The major is completed with **six (6) hours of advanced science electives**, which must include **at least three (3) hours of upper level chemistry or biochemistry coursework.**

Examples of some approved science electives include:

- Chem or Biochem 4998/4999 (Research)
- Chem 5420 (Organic Spectroscopy - 1.5)
- Chem 5430 (Carbohydrates - 3)
- Chem 5440 (Computational - 3)
- Chem 5520 (Nanochemistry - 3)
- Biochemistry 4511 (4)
- Most 4000 or 5000 level courses in Physics
- Most 4000 or 5000 level courses in Mathematics
- Other non-required graded Chem and Biochem 4000-6000 level courses

- Undergraduate Research (Chem or Biochem 4998/4999) is recommended. A maximum of six (6) hours of research may be used to fulfill the requirements of the major.
- Students who wish to receive an American Chemical Society certified degree should include Biochemistry 4511 or 5613 and an advanced laboratory experience in Inorganic Chemistry (4550) or Biochemistry (5621).

Autumn Semester (Year 1)		Spring Semester (Year 1)	
General Chemistry 1 (1910H, 1610, 1210)	5	General Chemistry 2 (1920H, 1620, 1220)	5
PLTL in Gen Chem (1612)	1	PLTL in Gen Chem (1622)	1
Calculus 1 (Math 1151)	5	Calculus 2 (Math 1172)	5
GE Elective	3-4	GE Elective (*e.g. Biological Science*)	4
Freshman Survey	1	GE Elective	3
	14-15		17
Autumn Semester (Year 2)		**Spring Semester (Year 2)**	
Organic Chemistry 1 (2910H , 2610, 2510)	4	Organic Chemistry 2 (2920H, 2620, 2520)	4
Organic Chemistry Laboratory 1 (2540)	2	Organic Chemistry Laboratory 2 (2550)	2
Physics 1, calculus based (1250)	5	Physics 2, calculus based (1251)	5
Integrals & Differential Equations (Math 2177)	4	Analytical Chemistry 1 (2210H, 2210)	5
	15		16
Autumn Semester (Year 3)		**Spring Semester (Year 3)**	
Physical Chemistry 1 (4300)	3	Physical Chemistry 2 (4310)	3
Inorganic Chemistry (3510)	3	Physical Chemistry Laboratory (4410)	3
Advanced Science Elective (Chem/Biochem[a])	3-4	Analytical Chemistry 2: Instrumental Analysis (4870)	3
Elective	3	Adv. Lab (Chem 4998/Inorg. 4550/Biochem 5621[a])	2-4
GE Elective	3	GE Elective	4
	15-16		15-17
Autumn Semester (Year 4)		**Spring Semester (Year 4)**	
Advanced Science Elective	3	Elective	3
Laboratory Practice in Instrumental Analysis (4880)	2	GE Elective	3
GE Elective	3	GE Elective	3
GE Elective	3	GE Elective	3
GE Elective	3-4	GE Elective	3-4
	14-15		15-16

[a]Biochemistry 4511 & Biochemistry 5621 = 4 credit hours

The Bachelor of Arts Degree in Biochemistry (B.A.)

The Bachelor of Arts curriculum is designed for students seeking to enter professional programs such as Medicine, Veterinary Medicine, Optometry, or Pharmacy.

- Chemistry 1610–1620 and Organic Chemistry 2610 – 2620 are the recommended sequences for chemistry and biochemistry majors, although qualified students are urged to take the Honors sequences.
- Chemistry 1612 & 1622 are highly recommended. They provide a structure in which students can work actively in groups of 6 to 8 peers to enhance learning.
- Undergraduate Research (Biochemistry 4998/4999) is strongly recommended as an elective course.

Autumn Semester (Year 1)		Spring Semester (Year 1)	
General Chemistry 1 (1910H, 1610, 1210)	5	General Chemistry 2 (1920H, 1620, 1220)	5
PLTL in Gen Chem (1612)	1	PLTL in Gen Chem (1622)	1
Calculus 1 (Math 1151)	5	Calculus 2 (Math 1152)	5
GE Elective	3	Introductory Biology 1 (Bio 1113)	4
Freshman Survey	1	GE Elective (*e.g. English 1110*)	3
	16		18
Autumn Semester (Year 2)		**Spring Semester (Year 2)**	
Organic Chemistry 1 (2910H , 2610, 2510)	4	Organic Chemistry 2 (2920H, 2620, 2520)	4
Organic Chemistry Laboratory 1 (2540)	2	Organic Chemistry Laboratory 2* (2550)	2
GE Elective	3	**Biochemistry 1 (5613)**	3
GE Elective	3	GE Elective	3
GE Elective (*e.g. Foreign Language 1101*)	4	GE Elective (*e.g. Foreign Language 1102*)	4
	16		16
Autumn Semester (Year 3)		**Spring Semester (Year 3)**	
Introductory Physics 1 (1250)	5	Introductory Physics 2 (1251)	5
Introductory Biology 2 (Bio 1114)	4	**Biochemistry 3 (5615)**	3
Biochemistry 2 (5614)	3	Biochemistry Lab (5621)	4
GE Elective (*e.g. Foreign Language 1103*)	4	GE Elective	3
	16		15
Autumn Semester (Year 4)		**Spring Semester (Year 4)**	
Physical Biochemistry 1 (5721)	3	Elective or Undergraduate Research (4998)	2-3
Molecular Genetics (MolGen 4500 or 4606)	3-4	Elective	3
GE Elective	3	Elective	3
GE Elective	3	Elective	3
Elective or Undergraduate Research (4998)	1-4	Elective	3
	13-17		14-15

***NOTE*:** Classes listed in **BOLD** are only offered in those semesters – Autumn or Spring ONLY as shown.

There is some flexibility in course scheduling– please see an undergraduate Biochemistry advisor for more information.

Total Credit Hour Summary: minimum 31-32 semester hours in the major (121 minimum total semester hours). The Data Analysis GE Elective is covered by taking Math 1152. There are 39 upper division hours required of which 31-32 hours are encompassed in the major.

* The Organic Lab 2 is not required for the B.A., however, it is commonly used to fulfill the 2 required elective hours.

The Bachelor of Science Degree in Biochemistry (B.S.)

The Bachelor of Science curriculum is designed for students seeking to become professional biochemists or enter biotechnology fields.

- Chemistry 1610–1620 and Organic Chemistry 2610 – 2620 are the recommended sequences for chemistry and biochemistry majors, although qualified students are urged to take the Honors sequences.
- Chemistry 1612 & 1622 are highly recommended. They provide a structure in which students can work actively in groups of 6 to 8 peers to enhance learning.
- Undergraduate Research (Biochemistry 4998/4999) is strongly recommended as an elective course.

Autumn Semester (Year 1)		Spring Semester (Year 1)	
General Chemistry 1 (1910H, 1610, 1210)	5	General Chemistry 2 (1920H, 1620, 1220)	5
PLTL in Gen Chem (1612)	1	PLTL in Gen Chem (1622)	1
Calculus 1 (Math 1151)	5	Calculus 2 (Math 1152)	5
GE Elective	3	Introductory Biology 1 (Bio 1113)	4
Freshman Survey	1	GE Elective (*e.g. English 1110*)	3
	15		18
Autumn Semester (Year 2)		**Spring Semester (Year 2)**	
Organic Chemistry 1 (2910H , 2610, 2510)	4	Organic Chemistry 2 (2920H, 2620, 2520)	4
Organic Chemistry Laboratory 1 (2540)	2	Organic Chemistry Laboratory 2 (2550)	2
Calculus 3 (Math 2153)	4	**Biochemistry 1 (5613)**	3
GE Elective	3	GE Elective	3
GE Elective (*e.g. Foreign Language 1101*)	4	GE Elective (*e.g. Foreign Language 1102*)	4
	17		16
Autumn Semester (Year 3)		**Spring Semester (Year 3)**	
Introductory Physics 1 (1250)	5	Introductory Physics 2 (1251)	5
Introductory Biology 2 (Bio 1114)	4	**Biochemistry 3 (5615)**	3
Biochemistry 2 (5614)	3	Biochemistry Lab (5621)	4
GE Elective (*e.g. Foreign Language 1103*)	4	GE Elective	3
	16		15
Autumn Semester (Year 4)		**Spring Semester (Year 4)**	
Physical Biochemistry 1 (5721)	3	**Physical Biochemistry 2 (5722)**	3
Molecular Genetics (MolGen 4500 or 4606)	3-4	Elective or Undergraduate Research (4998)	1-3
GE Elective	3	Elective	3
GE Elective	3	Elective	3
Elective or Undergraduate Research (4998)	1-4	Elective	3
	13-17		13-15

***NOTE*:** Classes listed in **BOLD** are only offered in those semesters – Autumn or Spring ONLY as shown.

There is some flexibility in course scheduling– please see an undergraduate Biochemistry advisor for more information.

Total Credit Hour Summary: minimum 38-39 semester hours in the major (121 minimum total semester hours).

How many students will the Dept be ready to accommodate?
In Autumn 2017, we are accommodating 32 sections of CHEM 1612 (which is PLTL for CHEM 1610). Based on historical enrollment in CHEM 1620, we expect to only need 20 sections of CHEM 1622 in Spring 2018, but we will be acquiring classrooms for 22 sections, just in case. We have been working closely with the registrar's office in scheduling these PLTL sections, thus do not anticipate any difficulties with obtaining these needed classrooms for Spring 2018.

The Dept of Chemistry should make sure that this opportunity is broadly available.
CHEM 1620 will be a co-requisite for CHEM 1622, and CHEM 1620 is the general chemistry course only taken by our majors. This course is intended to be offered to our majors only as a way to build a community in the first year. It is not intended to be broadly available to everyone.

How will students know about this course and understand that this will be valuable to them?
Peer-led Team Learning (PLTL) program in general chemistry is highlighted on our department website (https://chemistry.osu.edu/undergrad/resources/pltl) and was sent in an email to all prospective chemistry and biochemistry students last April. Our advisors have been highlighting our new PLTL program as they have been meeting with prospective students and during freshman scheduling orientations, and there efforts have been successful. We already have 31 students enrolled in CHEM 1612 (PLTL for CHEM 1610) this Autumn 2017, even though freshman orientation has just barely started last week.

How are peer-leaders trained, assessed, and perhaps compensated?
We have a PLTL coordinator who is responsible for the training and assessment of our Peer-Leaders. Our Peer-leaders attend one week of training at the start of Autumn semester, and then meet weekly with our PLTL coordinator in order to receive on-going training on the week's activities. Only the most excellent Peer-Leaders from Autumn 2017 will be chosen to continue as Peer-Leaders for Spring 2018 (CHEM 1622), since CHEM 1620 enrollment is lower than CHEM 1610.

Peer leaders are paid $12/hr and work approximately 3 hours per week (1 hr- training each week; 1.5 hrs- leading session with students, .5 hr- weekly reflection).

Will the addition of this one credit course lead to chemistry and biochemistry majors needing to take over 18 credit hours per semester?

No. A one credit course is able to be added to be added to the first year of the CHEM-BA, CHEM-BS, BIOCHEM-BA, and BIOCHEM-BS. Updated program major sheets are enclosed at curriculum.osu.edu attachments.

CHEM Curricular Map - Version 1

	KEY					Students develop knowledge within a historical perspective of the chemical principles and theories, both factual and conceptual	Working both individually and in groups, students solve both classical and contemporary chemistry problems which exemplify the current integrated nature of science disciplinary and interdisciplinary principles	Perform experimental laboratory procedures in a safe and ethical manner, collect and properly evaluate scientific data	Students develop effective skills in oral and written communication of scientific knowledge, formulate logical explanations and conclusions, and construct effective arguments.	Students retrieve information from the literature, and become proficient in online database searching including the evaluation of the quality and validity of both the source and content of such searches.	Students recognize social, historical, and philosophical implications of scientific discoveries, and understand the potential of science and technology to address problems of the contemporary world.
0 =	*Not in course*										
1 =	*Beginning Level*										
2 =	*Intermediate Level*										
3 =	*Advanced Level*										
	Name	**Elective**	**BA**	**BS**	**Lec/Lab**	**PG1- Foundational Knowledge**	**PG2- Problem Solving**	**PG3- Laboratory Finesse**	**PG4- Scientific Communication**	**PG5- Information Acquisition**	**PG6- Real World Implications**
CHEM 1210	Gen Chem 1		x	x	both	1	0	1	0	0	0
CHEM 1220	Gen Chem 2		x	x	both	1	0	1	0	0	0
CHEM 1610	Majrs Gen Chem 1		x	x	both	1	0	1	0	0	0
CHEM 1620	Majrs Gen Chem 2		x	x	both	1	1	1	1	0	1
CHEM 1910H	Hnrs Gen Chem 1		x	x	both	1	0	1	0	0	0
CHEM 1920H	Hnrs Gen Chem 2		x	x	both	1	1	1	1	0	1
CHEM 1612	PLTL Chem 1		x	x	Workshop	1	1	0	0	0	0
CHEM 1622*	**PLTL Chem 2**		x	x	Workshop	1	1	0	0	0	0
CHEM 2510	Org Lec 1		x	x	Lec	2	1	0	1	0	1
CHEM 2520	Org Lec 2		x	x	Lec	2	2	0	2	0	1
CHEM 2610	Mjrs Org Lec 1		x	x	Lec	2	1	0	1	0	1
CHEM 2620	Mjrs Org Lec 2		x	x	Lec	2	2	0	2	0	1
CHEM 2910H	Hnrs Org Lec 1		x	x	Lec	2	1	0	1	0	1
CHEM 2920H	Hnrs Org Lec 2		x	x	Lec	2	2	0	2	0	1
CHEM 2540	Org Lab 1		x	x	Lab	1	1	2	1	1	1
CHEM 2550	Org Lab 2		x	x	Lab	2	2	2	2	1	1
CHEM 5420	Org Spectroscopy	x			Lec	2	3	0	2	0	1
CHEM 5430	Carbohydrates	x			Lec	3	3	0	2	2	1
CHEM 52XX*	**Neurotransmitters**	x			Lec	3	3	0	2	2	2
CHEM 2210	Anal Chem 1		x	x	both	2	2	2	2	1	2
CHEM 2210H	Hnrs Anal Chem 1		x	x	both	2	2	2	2	2	2
CHEM 4870	Anal Chem 2			x	both	3	3	3	0	0	3
CHEM 4880	Instr. Analysis			x	Lab	0	3	3	3	2	3
CHEM 2990*	**Prof Dev**	x			Lec	0	0	0	3	3	0
CHEM 4300	P Chem 1			x	Lec	3	3	0	0	0	2
CHEM 4310	P Chem 2			x	Lec	3	3	0	0	0	2
CHEM 4410	P Chem Lab		x	x	Lab	0	3	3	3	3	2
BIOCHEM 5721	P Biochem 1		x		Lec	3	3	0	0	0	2
BIOCHEM 5722	P Biochem 2		x		Lec	3	3	0	0	0	2
BIOCHEM 4511	Intro Biochem	x			Lec	3	2	0	2	1	0
BIOCHEM 5621	Biochem Lab	x			Lab	3	3	3	3	2	1
CHEM 3510	Inorg Chem			x	Lec	3	2	0	0	0	3
CHEM 4550	Inorg Lab	x			Lab	3	3	3	3	0	3
CHEM 4998/98H	Research	x			Lab	3	3	3	2	3	3
CHEM 4999/99H	Thesis Research	x			Lab	3	3	3	3	3	3
CHEM 5440	Computational	x			Lec	3	3	3	3	3	3
CHEM 5520	Nanochemistry	x			Lec	3	3	0	3	3	3
CHEM 5240*	**Protein Modeling**	x			Lec	3	3	3	3	3	3

**Courses in red are the new courses we were hoping to get approved by Spring 2018*