

## BIOL 121.3 - The Diversity of Life

### COURSE SYLLABUS

COURSE TITLE:	<b>BIOL 121.3 (The Diversity of Life)</b>		
COURSE CODE:	22165	TERM:	T2 2020/2021
COURSE CREDITS:	3.0	DELIVERY:	Lecture & Practicum (Lab)
CLASS SECTION:	01	START DATE:	January 11 <sup>th</sup> 2021
CLASS LOCATION:	None - Remote delivery	LAB LOCATION:	None - Remote delivery
CLASS TIME:	12.30 to 1.20 pm (M,W,F)	LAB TIME:	1.40 to 4.30 pm (M, T, W, Th, or F), or 5.30 to 8.20 pm (M), or 6.00 to 8.50 pm (W), or 8.30 -11.20 am (T or Th)
WEBSITE:	Canvas		

### Course Description

Our world has at least 15 million species, all of which have adapted to particular environments and lifestyles and use energy to grow and reproduce. We examine these processes in representative organisms from all the major groups, and discuss factors influencing changes in biodiversity over time and space.

### Prerequisites

Prerequisite(s): Biology 30 or BIOL 90 or BIOL 107 or BIOL 108.

Note: Students with credit for BIOL 110 will not receive credit for BIOL 121.

### Treaty Acknowledgement

As we engage in Remote Teaching and Learning, we would like to acknowledge that the Saskatoon campus of the University of Saskatchewan is on **Treaty Six Territory** and the **Homeland of the Métis**. We pay our respect to the First Nation and Métis ancestors of this place and reaffirm our relationship with one another. I would also like to recognize that some may be attending this course from other traditional Indigenous lands. I ask that you take a moment to make your own Land Acknowledgement to the peoples of those lands. In doing so, we are actively participating in reconciliation as we navigate our time in this course, learning and supporting each other.

### Course Overview

This course is designed to introduce you to the vast and exciting field of biology, with a focus on biological diversity, evolution, adaptations of organisms to specific environments, and the evolutionary, ecological and anthropogenic factors influencing changes in biodiversity over time and space.

## **Instructor, Course Coordinator & Lab Coordinator**

There are 3 instructors for the lecture component of the course, 1 Lab Coordinator and TAs that will be assigned to small lab groups (~ 20 students). Please email your instructor or lab coordinator if you have any questions.

### **Contact Information:**

Professor Neil Chilton Instructor & Course Co-ordinator	e-mail: <a href="mailto:neil.chilton@usask.ca">neil.chilton@usask.ca</a>
Professor Christy Morrissey Instructor	e-mail: <a href="mailto:christy.morrissey@usask.ca">christy.morrissey@usask.ca</a>
Professor Philip McLoughlin Instructor	e-mail: <a href="mailto:philip.mcloughlin@usask.ca">philip.mcloughlin@usask.ca</a>
Joel Yurach Lab Coordinator	e-mail: <a href="mailto:joel.yurach@usask.ca">joel.yurach@usask.ca</a>

### **Instructor Profiles:**

Drs. Chilton, Morrissey and McLoughlin are faculty members/professors in the Department of Biology. They all teach and conduct research in biology. Their specialized areas of teaching and research are animal parasitology (Chilton), ecotoxicology (Morrissey) and population ecology (McLoughlin). Mr. Yurach is responsible for coordinating all aspects of the laboratories for BIOL 121. Your lab group will also be assigned a laboratory Teaching Assistant (TA) who will help you during the lab periods. TAs work under the supervision of Mr. Yurach and are senior undergraduate or graduate students at the University.

## **Learning Outcomes**

### **By the completion of this course, students will be expected to:**

1. have an understanding of biological principles (concepts), and that evolution is the unifying principle in biology
2. gain an appreciation for biology as an experimental science [hence, provide necessary background for advanced study of biology and other related disciplines], and realize that an understanding of biological principles requires knowledge of other fields of science (chemistry, physics, geology, geography, mathematics, biochemistry) and many disciplines within biology (e.g. evolution, ecology, genetics, physiology, structure and function, ethology, parasitology, molecular biology, etc.).
3. obtain knowledge of the diversity and complexity of life, which includes how organisms are adapted to their environment and the variation (e.g. morphological, genetic, physiological, behavioural) that exists among individuals of the same species and between individuals of related species
4. be able to think critically regarding scientific issues in our society and understand the importance of relationships between organisms and their environment, and how biodiversity is constantly changing over time

## Learning Charter

The University of Saskatchewan Learning Charter is intended to define aspirations about the learning experience that the University aims to provide, and the roles to be played in realizing these aspirations by students, instructors and the institution. A copy of the Learning Charter can be found at: <https://teaching.usask.ca/about/policies/learning-charter.php>

## Class Schedule

Week/ Dates	Lecture Modules (Topics)  <i>Laboratory Activity</i>	Synchronous "Lecture" Activity	Quizzes/Other Types of Assessment
Week 1 Jan 11 Jan 13 Jan 15	<u>Dr. Chilton:</u> <b>Module 1: What is Biology?</b> (Defining biology & the scientific method) <b>Module 2: What is Life?</b> (Characteristics of life & species adaptations) <hr/> <i>No lab scheduled this week</i>	Wednesday Jan 13 12.30 pm	
Week 2 Jan 18 Jan 20 Jan 22	<u>Dr. Chilton:</u> <b>Module 3: Classification of Organisms</b> (Species concepts & Biological nomenclature) <hr/> <i>Lab Period: LAB 1 - Introduction &amp; Prokaryotes</i>	Wednesday Jan 20 12.30 pm	Lecture Quiz 1 Monday Jan 18 12.30 pm
Week 3 Jan 25 Jan 27 Jan 29	<u>Dr. Chilton:</u> <b>Module 4: Evolution and Variation</b> (Lamarck & Darwin, Variation, microevolution & natural selection) <hr/> <i>Lab Period: LAB 2 - Protists</i>	Wednesday Jan 27 12.30 pm	
Week 4 Feb 1 Feb 3 Feb 5	<u>Dr. Chilton:</u> <b>Module 4 (cont.): Evolution and Variation</b> (Sexual selection & macroevolution) <hr/> <i>Lab Period: LAB 3 - Fungi</i>	Wednesday Feb 3 12.30 pm	Lecture Quiz 2 Monday Feb 1 12.30 pm
Week 5 Feb 8 Feb 10 Feb 12	<u>Dr. Morrissey:</u> <b>Module 5: History of Biodiversity through Time</b> (Origin of life, increasing complexity through time) <hr/> <i>Lab Period: LAB 4 - Green algae, mosses, ferns &amp; club mosses</i>	Wednesday Feb 10 12.30 pm	Quiz on Labs 1, 2 & 3 Monday Feb 8 12.30 pm
Week 6	<b>NO CLASSES - Midterm Break</b>		
Week 7 Feb 22 Feb 24 Feb 26	<u>Dr. Morrissey:</u> <b>Module 5 (cont.): History of Biodiversity through Time</b> (Key events, extinctions and the rise and fall of the dinosaurs) <hr/> <i>Lab Period: LAB 5 - Conifers &amp; angiosperms</i>	Wednesday Feb 24 12.30 pm	Spot test on Labs 3 & 4 Monday Feb 22 12.30 pm

Week 8 Mar 1 Mar 3 Mar 5	<p><u>Dr. Morrissey:</u> <b>Module 6: Life is Everywhere</b> (Life in the extremes, ecozones, regional diversity, biodiversity hotspots)</p> <hr/> <p><i>Lab Period: LAB 6 - Sponges, Cnidarians, Flatworms &amp; Nematodes LAB 7 - Annelids, Mollusks &amp; Arthropods</i></p>	Wednesday Mar 3 12.30 pm	Lecture Quiz 3 Monday Mar 1 12.30 pm
Week 9 Mar 8 Mar 10 Mar 12	<p><u>Dr. McLoughlin:</u> <b>Module 7: Describing Modern Biodiversity and the Hierarchy of Life</b> (Taxonomic hierarchies, domain/kingdoms, communities &amp; ecosystems)</p> <hr/> <p><i>No lab scheduled this week</i></p>	Wednesday Mar 10 12.30 pm	Spot Test/Quiz on Labs 5,6,7 Monday Mar 8 12.30 pm
Week 10 Mar 15 Mar 17 Mar 19	<p><u>Dr. McLoughlin:</u> <b>Module 8: Interactions between Organisms and Environment</b> (Species distributions, communities, interactions, predator-prey, co-evolution)</p> <hr/> <p><i>Lab Period: LAB 8 - Echinoderms &amp; Chordates</i></p>	Wednesday Mar 17 12.30 pm	
Week 11 Mar 22 Mar 24 Mar 26	<p><u>Dr. McLoughlin:</u> <b>Module 8 (cont.): Interactions between Organisms and Environment</b> (Island biogeography, disturbance and succession, food webs)</p> <hr/> <p><i>Lab Period: REVIEW LAB</i></p>	Wednesday Mar 24 12.30 pm	Lecture Quiz 4 Monday Mar 22 12.30 pm
Week 12 Mar 29 Mar 31 Apr 2	<p><u>Dr. McLoughlin:</u> <b>Module 9: Human Threats to Biodiversity</b> (Habitat loss, invasive species, overexploitation)</p> <hr/> <p><i>Laboratory Exam Friday April 2 is a holiday</i></p>	Wednesday Mar 31 12.30 pm	Laboratory Exam Monday Mar 29 12.30 pm
Week 13 Apr 5 Apr 7 Apr 9	<p><u>Dr. Morrissey:</u> <b>Module 9 (cont.): Human Threats to Biodiversity</b> (Pollution, climate change, agriculture)</p> <hr/> <p><i>No lab scheduled this week</i></p>	Wednesday Apr 7 12.30 pm	Lecture Video Assignment Submit by midnight, Friday April 9
Week 14 Apr 12	<p>Lecture Q &amp; A session and Final exam preparation on April 12<sup>th</sup></p> <hr/> <p><i>No lab scheduled this week</i></p>	Monday Apr 12 12.30 pm	

**Last day to withdraw from course without academic penalty is:  
Wednesday April 7<sup>th</sup> 2021.**

**Lecture class information:**

1. Lectures will be delivered asynchronously as modular topics using Panopto video recordings. Instructor PowerPoint slides and/or learning notes will generally be posted before the start of each scheduled class time so that students can view and study these on their own schedule. For each module, there will be suggested readings or other supplementary materials provided, and these will be posted in CANVAS.
2. Synchronous Activities by Instructors during Lecture Times (see dates & times listed in Class Schedule. We will have live in-class questions and answers, discussion or other activities, on Wednesday's of most weeks starting at 12.30 pm using WebEx (exception is in week 14, when the live session will be on the Monday). A class email will be sent to explain the procedures for participating in these sessions.

**Laboratory class information:**

1. Labs begin in the week of January 18<sup>th</sup>. Students are expected to attend and be on time for all scheduled labs, review labs and final lab exams.
2. **The current edition of the Biology 121.3 lab manual is required for all labs** (see next page on how to purchase this). You will also need some means of accessing Canvas (computer would be best, as it may be difficult doing the entire lab via a smartphone). Also, you need to be able to take photos or screenshots for some assignment submissions. Any questions regarding the lab should be directed by e-mail to Joel Yurach.

**Course Website & Supplementary Resources**

**Students are required to read the course syllabus.**

Instructors will record lectures and make them available on the BIOL 121 course page of CANVAS. The rules regarding to copyright (page 9) apply to these recordings. Hence, recordings are only intended for the use of students registered in this class.

Supplementary materials will also be placed on the BIOL 121 course page of CANVAS.

Instructors may provide a copy of their lecture notes on CANVAS to you as a courtesy. You are not required to download or print these notes. While instructors will endeavour to have the lecture notes posted sometime in advance of the lectures; however, they will not guarantee this.

**Recommended Technology for Remote Learning**

Students are reminded of the importance of having the appropriate technology for remote learning. The list of recommendations can be found at <https://students.usask.ca/remote-learning/tech-requirements.php>.

## Required Resources

**Lab Manual:** Biology 121.3 Laboratory Manual (2020–2021 Edition).

**Textbook:** There is **no required textbook** for this course. However, if you are interested in a textbook, we recommend using the same textbook as used for BIOL 120 and BIOL 224:

Russell PJ, Hertz PE, McMillan B, Fenton MB, Maxwell D, Haffie T, Milson B, Nickle T, Ellis S. 2018. *Biology: Exploring the Diversity of Life*. 4<sup>th</sup> Canadian edition, Nelson Education. ISBN 978-0-17-671888-6 (Hard-copy); 978-0-17-682709-0 (PDF); ebook includes access to MindTap.

Items can be purchased online from the University of Saskatchewan Bookstore:

<https://bookstore.usask.ca/students.php#MyTextbooks>

## Grading and Assessment Scheme

Grading component	%
Lecture quizzes (4 x 5% each)	20
Lecture video assignment	10
Final lecture exam	30
Laboratory quizzes and spot tests	15
Laboratory RO sheets/worksheets/prelab tests	15
Laboratory exam	10
Total	100

## Evaluation Components

### Lecture Quizzes:

**Value:** 20% of final course grade (4 lecture quizzes, 5% per quiz)  
**Date:** The dates and times of these are shown in the Class Schedule.  
**Format:** 10 multiple choice questions per quiz  
**Length:** 15 minutes  
**Description:** Based on lecture material

### Lecture video assignment:

**Value:** 10% of final course grade  
**Date:** Friday, April 9<sup>th</sup> (before midnight) as shown in the Class Schedule.  
**Format:** The video assignment will be conducted on the last learning module topic of “*Human threats to Biodiversity*”. Students will research a specific topic of choice, then design a short 2.5 to 3-minute video submission.  
**Description:** The video may take any creative delivery format – mock interview, news report, dramatization, etc. Emphasis will be on content, demonstrated understanding of the topic, and confidence in oral delivery mode rather than production quality (smartphone video and free editing software is fine). It is recommended that you develop a storyboard and script before recording your video and be

sure to credit any scientific information sources, images, texts, videos or sound as per copyright guidelines. A detailed grading rubric will be provided. All student submissions must be uploaded in CANVAS.

### **Final Exam:**

**Value:** 30% of final course grade  
**Date:** Consult Final Exam Schedule  
**Length:** 1.5 hours  
**Format:** 70 multiple-choice questions (20 questions from Prof. Chilton, 25 questions for Prof. Morrissey and 25 questions for Prof. McLoughlin).  
**Description:** The exam is comprehensive in that it will cover all lecture material.

### **Laboratory Quizzes and Spot Tests:**

**Value:** 15% of final course grade  
**Date:** These will take place on Monday's - see Class Schedule  
**Format:** Quizzes (written); spot tests  
**Description:** 5-20 minutes depending upon the type of test. The test will be based on the material from the previous two or three lab exercises. The questions will generally require a short written answer. Spot tests involve images of specimens shown in PowerPoint and short questions about the specimen shown. Additional information about the lab quizzes can be found in your lab manual and will be given in the weeks prior to the quiz/spot test.

### **Laboratory RO sheets/worksheets/prelab tests:**

**Value:** 15% of final course grade  
**Date:** Throughout term - details will be provided in advance  
**Format:** Occasional RO sheets and 1 or 2 worksheets to be submitted for marking, small prelab tests and flower project  
**Description:** Completed RO sheets and worksheets will need to be submitted following a few of the labs. All student submissions (RO sheets & worksheets) must be uploaded in CANVAS by noon the day after your lab section (eg Monday 1:30pm lab – due Tuesday by noon). In addition, there may also be 2 or 3 small prelab quizzes that will be held at the start of a lab session.

### **Laboratory Exam:**

**Value:** 10% of final course grade  
**Date:** Monday March 29<sup>th</sup> starting at 12.30 pm  
**Length:** 75 mins  
**Format:** This will be a mixture of spot test and short written answers.  
**Description:** The exam is comprehensive in that it will cover all laboratory classes.

## **University of Saskatchewan Grading System**

Students in BIOL 121 are reminded that the University has established a grading system to be used in all of its courses. Information on literal descriptors for grading at the University of Saskatchewan (reproduced below) can be found at:

<http://students.usask.ca/academics/grading/grading-system.php>

For information regarding appeals of final grades or other academic matters, please visit the Student Conduct and Appeals section of the University Secretary's webpages:

<https://secretariat.usask.ca/student-conduct-appeals/appeals-in-academic-matters.php>

## **Scheduling of Exams**

Final examinations and the laboratory exam will be open book and delivered remotely. They must be written on the date and time scheduled. Final examinations may be scheduled at any time during the examination period in April 2021; students should therefore avoid making prior travel, employment, or other commitments for this period. Students are encouraged to review all examination policies and procedures: <http://students.usask.ca/academics/exams.php>

## **Missed Exams and Quizzes, and Late Assignments**

If a student encounters a **technical difficulty during a synchronous assessment** (e.g., lecture quiz, lab quiz or spot test, laboratory exam and the final exam) then they **must contact the instructor responsible immediately** (i.e. during the time of the synchronous assessment) **by email** to explain the technical issue, and to avoid being assigned a grade of zero for that evaluation task.

**LECTURE QUIZZES** - In the event that a student is absent from a **lecture quiz** through due to medical or any other university-approved reasons, they **must advise the instructor responsible** (= Prof. Chilton for quizzes 1 and 2, Prof. Morrisey for quiz 3, and Prof. McLoughlin for quiz 4) **by email within 24 hours of the missed quiz**, in order to avoid being assigned a grade of zero for that assignment.

**VIDEO ASSIGNMENT** - Late submission of the video assignment will incur a **10% penalty per business day** for a period of up to 3 business days (30%).

**LABORATORY QUIZZES, SPOT TESTS, PRELAB TESTS & RO SHEETS/WORKSHEETS** - In the event that a student is absent from the quizzes, spot tests and prelab tests due to medical or any other any other university-approved reasons, they must advise **Joel Yurach by email within 24 hours of the missed assignment**, in order to avoid being assigned a grade of zero for that assignment.

**LABORATORY RO SHEETS/WORKSHEETS** - Late submission of an assignment will incur a 10% penalty per day after the due date for a period of up to 3 days.



**LABORATORY EXAM** - If a student is absent from the **laboratory exam** through due to medical or any other valid reason, **they must advise Joel Yurach by email within 24 hours of the missed exam**. Documentation must be provided to explain the absence from the exam and to have an opportunity to write the exam at a later date.

**FINAL EXAM** - If a student is absent from the **final exam** due to a university-approved reason (such as medical or compassionate reasons, see <https://policies.usask.ca/policies/academic-affairs/academic-courses.php#8StudentAssessmentIssuesandSpecialCircumstances>), **they must apply to the Dean's Office of the College in which they are registered for an opportunity to write a Deferred Final Exam, within 3 working days of the missed exam**. Documentation must also be provided to explain the absence from the final exam. Deferred exams may utilize a different format than the regular exam, at the sole discretion of the instructors.

## Criteria That Must Be Met to Pass

The Laboratory Exam and Lecture Final Exam are **required** elements, and therefore must be completed in order for a student to be eligible to pass this course.

## Copyright

Course materials are provided to you based on your registration in a class, and anything created by your professors and instructors is their intellectual property, unless materials are designated as open education resources. This includes exams, PowerPoint/PDF slides and course notes. Additionally, other copyright-protected materials created by textbook publishers and authors may be provided to you based on license terms and educational exceptions in the Canadian Copyright Act (see <http://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>).

Before you copy or distribute others' copyright-protected materials, please ensure that your use of the materials is covered under the University's Fair Dealing Copyright Guidelines available at <https://library.usask.ca/copyright/general-information/fair-dealing-guidelines.php>. For example, posting others' copyright-protected materials on the open web is not covered under the University's Fair Dealing Copyright Guidelines, and doing so requires permission from the copyright holder.

For more information about copyright, please visit <https://library.usask.ca/copyright/index.php> where there is information for students available at <https://library.usask.ca/copyright/students/rights.php>, or contact the University's Copyright Coordinator at <mailto:copyright.coordinator@usask.ca> or 306-966-8817.

## Student Feedback

Students are encouraged to E-mail with the instructor to review their performance anytime during the course by appointment.

## Integrity in a Remote Learning Context

Although the face of teaching and learning has changed due to covid-19, the rules and principles governing academic integrity remain the same. If you ever have questions about what may or may not be permitted, ask your instructor. Students have found it especially important to clarify rules related to exams administered remotely and to follow these carefully and completely.

The University of Saskatchewan is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Student Conduct & Appeals section of the University Secretary Website and avoid any behaviour that could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All students should read and be familiar with the Regulations on Academic Student Misconduct (<https://secretariat.usask.ca/student-conduct-appeals/academic-misconduct.php>) as well as the Standard of Student Conduct in Non-Academic Matters and Procedures for Resolution of Complaints and Appeals (<https://secretariat.usask.ca/student-conduct-appeals/academic-misconduct.php#IXXIAPPEALS>)

For more information on what academic integrity means for students see the Academic Integrity section of the University Library Website at: <https://library.usask.ca/academic-integrity#AboutAcademicIntegrity>

You are encouraged to complete the Academic Integrity Tutorial to understand the fundamental values of academic integrity and how to be a responsible scholar and member of the USask community - <https://library.usask.ca/academic-integrity.php#AcademicIntegrityTutorial>

***Important Note:*** Additional information about student misconduct specific to BIOL 121 can be found in the laboratory manual. BIOL 121 students are required to read and understand the information about misconduct that is presented in the laboratory manual.

## Examinations with Access and Equity Services (AES)

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Access and Equity Services (AES) if they have not already done so. Students who suspect they may have disabilities should contact AES for advice and referrals at any time. Those students who are registered with AES with mental health disabilities and who anticipate that they may have responses to certain course materials or topics, should discuss course content with their instructors prior to course add / drop dates. In order to access AES programs and supports, students must follow AES policy and procedures. For more information or advice, visit <https://students.usask.ca/health/centres/access-equity-services.php>, or contact AES at 306-966-7273 or [aes@usask.ca](mailto:aes@usask.ca).

Students registered with AES may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through AES by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by AES.

For information on AES services and remote learning please visit <https://updates.usask.ca/info/current/accessibility.php#AccessandEquityServices>

## Student Supports

### Academic Help for Students

The University Library offers a range of learning and academic support to assist USask The University Library offers a range of learning and academic support to assist USask undergrad and graduate students. For information on specific services, please see the Learning page on the Library web site <https://library.usask.ca/support/learning.php>.

- Remote learning support information <https://students.usask.ca/study/remote-learning.php>
- Remote learning tutorial [https://libguides.usask.ca/remote\\_learning](https://libguides.usask.ca/remote_learning)
- Study skills materials for online learning <https://libguides.usask.ca/studyskills>
- A guide on netiquette, principles to guide respectful online learning interactions <https://teaching.usask.ca/remote-teaching/netiquette.php>

### Teaching, Learning and Student Experience

Teaching, Learning and Student Experience (TLSE) provides developmental and support services and programs to students and the university community. For more information, see the students' web site <http://students.usask.ca>.

### Financial Support

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact Student Central (<https://students.usask.ca/student-central.php>).

### Aboriginal Students' Centre

The Aboriginal Students' Centre (ASC) is dedicated to supporting Aboriginal student academic and personal success. The centre offers personal, social, cultural and some academic supports to Métis, First Nations, and Inuit students. The centre is also dedicated to intercultural education, bringing Aboriginal and non-Aboriginal students together to learn from, with and about one another in a respectful, inclusive and safe environment. Students are encouraged to visit the ASC's Facebook page (<https://www.facebook.com/aboriginalstudentscentre/>) to learn more.

### International Student and Study Abroad Centre

The International Student and Study Abroad Centre (ISSAC) supports student success and facilitates international education experiences at USask and abroad. ISSAC is here to assist all international undergraduate, graduate, exchange and English as a Second Language students in their transition to the University of Saskatchewan and to life in Canada. ISSAC offers advising and support on matters that affect international students and their families and on matters related to studying abroad as University of Saskatchewan students. Please visit [students.usask.ca](https://students.usask.ca) or [updates.usask.ca](https://updates.usask.ca) for more information.

**College Supports**

Students in Arts & Science are encouraged to contact the Undergraduate Student Office and/or the Trish Monture Centre for Success with any questions on how to choose a major; understand program requirements; choose courses; develop strategies to improve grades; understand university policies and procedures; overcome personal barriers; initiate pre-career inquiries; and identify career planning resources. Contact information is available at:

<http://artsandscience.usask.ca/undergraduate/advising/>