

Syllabus

History of Biology

History of Science and Technology Programme, University of King's College

Department of Biology, Dalhousie University

BIOL 3602/HSTC 3302 Fall 2023

The University of King's College sits on ancestral and unceded Mi'kmaw territory, subject to the Peace and Friendship Treaties that are the basis for peaceful co-existence and good relations among all who live in Mi'kma'ki.

Dalhousie University acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to the Indigenous knowledges held by the Mi'kmaq People, and to the wisdom of their Elders past and present. The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people.

Dalhousie University also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

Course Instructor(s)

Name	Email	Office Hours
Gillian Gass (she/her)	gillian.gass@dal.ca	by appointment

E-mail is the best way to reach me; my goal is to reply to student emails within 24 hours, Monday through Friday. I'm happy to meet in person outside of class time if you would prefer an in-person conversation – in your email, please just suggest a few times that would work with your schedule.

Course Description

What was life? This course explores a wide range of human attempts to understand the living world, from ancient accounts of spontaneous generation to atomic-age genetics and ecology.



Course Prerequisites

At least 30 earned credit hours are required in order to register for this class.

Course Structure

Introduction to the Course

In this class, we'll explore a wide-ranging set of topics in the history of biology; and in our work we will ask, as often as we can, "what was life?" – that is, for a particular moment or text or period of intense investigative activity, what were the features or meanings of living things that were considered important? Once deemed important, what approaches did participants take to building knowledge around these aspects of the living world? Where and how did this work happen and how was it communicated? Who was involved in building this knowledge, and how have historians worked to surface previously overlooked or hidden contributors to the ongoing work of understanding living things? And how can historical work help us in answering these questions?

In class we will work regularly with primary texts, often with representative or crucial passages from longer works. You will gain experience in close, careful, and thoughtful reading techniques and with a range of source materials including published books, articles, images, and online-accessible archived materials. The class will be structured to promote access and flexibility, and you will be able to choose from a number of different approaches to class participation. The take-home midterm and final exams will be essay-based, and for your course project you will curate a dossier of materials about some person, technology, study or site relevant to the history of biology, with the aim of building a collection of good-quality historical information suitable for use by someone teaching or writing about biology.

Course Format

Our class will meet on Tuesdays and Thursdays 10:05-11:25 a.m. in Classroom 1 of the King's Arts and Administration Building.

The class will include lecture, seminar, and small-group/workshop elements. Lectures will be used to introduce new ideas and provide context; in seminar-style discussions, we will focus on making connections between course topics and understanding key arguments from the secondary literature; and in small-group/workshop sessions we will focus on working with primary sources, closely reading and discussing selected passages, images, or objects.

Learning Objectives

In this course, students will have the opportunity

- 1. to recognize and articulate, across a range of different instances, some enduring questions for the human study of living things and to consider the role of place and other contextual factors in shaping studies of the living world;
- to encounter and analyse a variety of historical source materials and to build an appreciation for what these sources can tell us about the history of practices, ideas, and questions in the study of living things;
- 3. to practice reading, thinking, and communicating as an historian by making connections and sharing ideas in group and class discussions, essays, short written work, and an individual project.



Course Materials

Readings for each week will be 20-30 pages (so, 10-15 pages per class meeting), emphasizing primary source materials and with some selected secondary materials included to provide support and context. There are no books to buy for this class: all readings will be provided to students via our class Brightspace site.

Assessment

Class Participation: 20% (throughout term)

Evidence of participation in class can take many forms. In this class you will plan your own pathway through a course in a way that includes some required elements (for example, exams and a course project) and some flexibility in the form of participation.

Students will be able to choose from a set of options to build their participation grade, including:

- regular participation in class/group discussions (choose increments of 5% up to a maximum of 20%)
- providing to the class short verbal summaries of the day's assigned readings (up to four class sessions at 5% each)
- short (300-500 words) written responses to writing prompts (prompts provided on Brightspace; up to two at 5% each)
- curating image sets relevant to course topics, including annotations, alt-text descriptions and sourcing (up to two sets of four images at 5% each)

Please consider how you would like to demonstrate your engagement with the class materials, choosing from among these options a set of activities that add up to a total of 20%. Then, provide me with your participation plan (via e-mail) by September 22, 2023; but do keep in mind that you have the option of revising your plan as the term goes along.

Midterm Essay Exam: 20% (Part I: 10%; Part II: 10%)

The midterm exam will consist of two essays from a selection of approximately five questions on specific course topics. This exam will be written across two days of the course to allow you the opportunity to get some comments and suggestions for improvement on Essay I before writing Essay 2. If Essay 2 shows a substantial improvement over Essay I as a result of incorporating these suggestions, then it can be weighted more heavily in your final grade calculations such that Essay I can count for as little as 5% of the final grade and Essay 2 can count for up to 15% of the final grade.

Essay I will be written on October 3rd during class time, and Essay 2 will be written on October 10th during class time. The aim of the midterm exam is to demonstrate your understanding of the material that we have covered in class up to and including September 28th. The essays will be graded based on how well you demonstrate the understanding of that material in a clearly-written and well-structured essay. Do not incorporate material from outside of what we've studied in class: use your time and the word-count to discuss material we've studied in this class.



Dossier Project: 30%

In this project, you will develop a dossier about a past practitioner, a technology, an experiment, a biological entity, or a workspace/study site that has been of importance in the history of biology.

This dossier will include a set of primary sources (both written and visual) and excerpts from high-quality secondary sources (academic books and/or journal articles). To orient the reader to these materials, you will write a short introduction to each selection; as well, you will give your reader a general overview of the dossier by writing a project introduction and by creating an infographic. Your goal in this project is to produce a carefully curated resource that a biology teacher or writer/journalist could use in their own communication about biology to students or public audiences, providing them with interesting, academic-quality, and thoughtfully selected materials that they would not easily find for themselves in a standard internet search.

We will discuss this project in class and more detailed guidance documents will be provided via Brightspace. As well, one class session (October 5th) is designated as a course project work day to give you a chance to get started on the project proposal during class time.

The project proposal will be counted for 10% and the final dossier for an additional 20% of the course grade. The proposal is due Thursday, October 26th, and the final project is due Wednesday, December 6th. Both project components should be uploaded to the Brightspace dropbox by 4 p.m. on the due date.

Final Essay Exam: 30%

The final exam will consist of two essays from a selection of approximately five questions on broad course themes, with examples chosen from both pre- and post-midterm exam material.

The final exam is offered during the scheduled exam period, and the date, time, and location will be scheduled by the Registrar's Office. The aim of the final exam is to demonstrate your understanding of the material that we have covered in class. The essays will be graded based on how well you demonstrate the understanding of that material in a clearly-written and well-structured essay. Do not incorporate material from outside of what we've studied in class: use your time and the word-count to discuss material we've studied in this class.



Summary of course assessment elements and due dates:

Assessment Element	Due Date	Grade Value
Participation	Participation plan due September 22 nd (via e-mail); participation takes place throughout term, with final submissions of any written/visual elements due by December 6 th at 4 p.m. (all times AST) via Brightspace dropbox	20%
Midterm Exam Part I	October 3 rd during class time	10%
Midterm Exam Part 2	October 10 th during class time	10%
Dossier Project Proposal	Due October 26 th at 4 p.m. via Brightspace dropbox.	10%
Dossier Project Final	Due December 6 th at 4 p.m. via Brightspace dropbox	20%
Final Exam	Held during the final exam period (date to be scheduled by Registrar's Office)	30%



The University of King's College uses the following scale for defining and correlating letter grades, number grades, and grade point values. The relationships between letter grades and point values are the same as the Dalhousie Common Grade Scale.

Grade	Percentage Grade Value	Grade Point Value	Definition	
A+	90-100	4.3		Considerable evidence of original
Α	85-89	4.0	Excellent	thinking; demonstrated outstanding capacity to analyze and synthesize;
A-	80-84	3.7		outstanding grasp of subject matter; evidence of extensive knowledge base.
B+	77-79	3.3		Evidence of grasp of subject matter, some evidence of critical capacity and analytical
В	73-76	3.0	Good	ability; reasonable understanding of
B-	70-72	2.7		relevant issues; evidence of familiarity with the literature.
C+	65-69	2.3		Evidence of some understanding of the
С	60-64	2.0	Satisfactory	subject matter; ability to develop solutions to simple problems; benefitting
C-	55-59	1.7		from the university experience.
D	50-54	1.0	Marginal Pass	Evidence of minimally acceptable familiarity with subject matter, critical and analytical skills (except in programs where a minimum grade of 'C' or 'C+' is required).
F	0-49	0	Inadequate	Insufficient evidence of understanding of the subject matter; weakness in critical and analytical skills; limited or irrelevant use of the literature.
INC		0	Incomplete	
w		Neutral and no credit obtained	Withdrew after deadline	
ILL		Neutral and no credit obtained	Compassionate reasons, illness	



Access and Flexibility

I have tried to be conscious of access and flexibility when developing this class, but there is always more to be done and you might still encounter barriers to access. The staff at Dalhousie's Student Accessibility Centre (access@dal.ca) are available to support students with disabilities and other access needs. You don't need to wait until you have documentation in hand to start working with the Access staff, so please get in touch with them right away. Please feel free, too, to contact me directly if there's an aspect of the class that is creating a barrier for you. In that case, you absolutely don't need to disclose the specifics of your situation to me – just explain what you need, and I will do what I can, probably in consultation with the experts at the Access centre. I would also like to hear from you with any ideas that you have about how to make this class more accessible for students.

During the term you might need to miss a class now and then due to health reasons, caregiving responsibilities, or unexpected circumstances (and so might I). The class is designed to allow for participation options that don't require always being in class, and the midterm and final exams include a choice of questions so that not every day's in-class material will be tested directly. If a situation arises that requires you to miss more than a few classes, please let me know. We might find, too, that as term goes on we have to make changes to the class due to updated public health rules or other circumstances that can't be predicted at the start of term; in that case, I will keep access and flexibility as priorities in navigating these changes. Please note that we do not use the SDA (Student Declaration of Absence) form in this class.

For more on access, please see the University Policies and Statements section of the syllabus.

Policy on due dates, supplemental and missed tests

The project proposal and final document are handed in through our Brightspace site into the appropriate assignment dropbox, and all work is due by 4 p.m. Halifax time on the due dates specified above (please don't cut the timing too closely, though – allow yourself some leeway in case of a Brightspace glitch or other unexpected delay). If you are unable to submit your paper on time due to illness or personal/family circumstances, please contact me as soon as you can to discuss a revised due date. Work sent in after the specified due date and time without an agreed-upon revised due date will have 10% deducted per day overdue.

There are no supplementary exams or projects in this class. If you have missed an intended participation element, you can choose a new participation option from the list to replace it; in that case, please just let me know about the change of plans. Please make sure to do your best on all tests and assignments by not leaving any work until the last minute, and please don't hesitate to ask questions if you need some help.

¹ Laura Mauldin's "Course Ethos of Care" has been a helpful source for this section: (https://docs.google.com/document/d/1ICEMb43ZzdJCA1Z_eni7HX6BH8F6HOeSwkYqlqqADh8/edit)



Academic Integrity

In academic work, we value and highlight the contributions of other scholars and take care in the use of quotation and citation to show how our own work is built upon the words and ideas of other thinkers. This commitment, and the set of practices that we use to enact that commitment, is often called "academic integrity".

Academic integrity is a central value at Dalhousie and King's, and violations of academic integrity such as plagiarism and other forms of cheating are not acceptable. Penalties assessed in cases of academic dishonesty can range from zero grades on assignments or courses, to notations on transcripts, to suspension or expulsion. It is not worth taking this risk – so don't. Just do your own work and give proper credit to your source materials. If you're not sure how to give proper credit, please check with me or with the Writing Centre.

In this class, all exams, assignments, and projects are expected to consist of each individual student's own work: all work handed in for credit must be your own work in your own words, with quotations from other works indicated clearly with quotations and page numbers and all sources properly credited.

No Al/generative/large language model technologies (for example, ChatGPT) are to be used in your work for this course. For details, please see the statements on page 12 of this syllabus which govern student work done in University of King's College courses like this one.

Plagiarism detection software will not be used in this class.

For more on academic integrity, please see the University Policies and Statements section of the syllabus.



Course Topics

For each day's assigned readings, please see our class Brightspace site. This is a proposed schedule of topics; we'll try to stick to it, and I'll make sure to announce in class and via Brightspace announcements if there are any changes.

Date	Topics		
05-Sept	Course introduction		
07-Sept	Generation, spontaneous and otherwise, in Classical Antiquity		
12-Sept	Generation continued, and plant knowledge in ancient and medieval texts		
14-Sept	Living beings and the Classical Islamic world		
19-Sept	Life under the microscope in 17th century natural philosophy		
21-Sept	Metamorphoses and observations in 17th and 18th century studies of life		
26-Sept	How and why to classify: arguing about methods in the 18th century		
28-Sept	Colonial botany, bioprospecting, and living world knowledge in place		
03-Oct	Midterm day I (no new class material)		
05-Oct	Course project work day I		
10-Oct	Midterm day 2 (no new class material)		
12-Oct	Observation, representation, and invisibility: scientific illustrations and illustrators		
17-Oct	Cells and states in the 19th century German lands		
19-Oct	What was Mendel doing?		
24-Oct	Species and changes: evolutionary thinking before and after (and, especially, during) Darwin		
26-Oct	Spaces for biological work: lab and field, local knowledge and expeditions		
31-Oct	Catch-up day		
02-Nov	Mathematical models, model organisms, and chromosomes		
07-Nov	Eugenics and early genetics		
09-Nov	Guest lecture by Dr. Leslie Digdon		
14-Nov	Break week: no class today		
16-Nov	Break week: no class today		
21-Nov	Genetics, development and the "natural" in early 20th century biology		
23-Nov	Mutations and visualizations in Atomic Age genetics		
28-Nov	Fallout: radiation and ecology in the pond and under the sea		
30-Nov	Crystallographers, structures, and transformations in early molecular biology		

Please note that on Tuesday, December 5th, Monday classes will be held (so our class will not meet).



University Policies and Statements

Dalhousie:

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel, and support. Visit or e-mail the Indigenous Student Centre at 1321 Edward St or elders@dal.ca. Additional information regarding the Indigenous Student Centre can be found at: https://www.dal.ca/campus_life/communities/indigenous.html

Internationalization

At Dalhousie, 'thinking and acting globally' enhances the quality and impact of education, supporting learning that is "interdisciplinary, cross-cultural, global in reach, and orientated toward solving problems that extend across national borders." Additional internationalization information can be found at: https://www.dal.ca/about-dal/internationalization.html

Academic Integrity

At Dalhousie University, we are guided in all our work by the values of academic integrity: honesty, trust, fairness, responsibility, and respect. As a student, you are required to demonstrate these values in all the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity. Additional academic integrity information can be found at: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Student Accessibility Centre is Dalhousie's centre of expertise for matters related to student accessibility and accommodation. If there are aspects of the design, instruction, and/or experiences within this course (online or in-person) that result in barriers to your inclusion, please contact the Student Accessibility Centre (https://www.dal.ca/campus_life/academic-support/accessibility.html) for all courses offered by Dalhousie with the exception of Truro. For courses offered by the Faculty of Agriculture, please contact the Student Success Centre in Truro (https://www.dal.ca/about-dal/agricultural-campus/student-success-centre.html)



Conduct in the Classroom - Culture of Respect

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

Diversity and Inclusion - Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness (Strategic Priority 5.2). Additional diversity and inclusion information can be found at: http://www.dal.ca/cultureofrespect.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner - perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution. The full Code of Student Conduct can be found at:

https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Fair Dealing Policy

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie. Additional information regarding the Fair Dealing Policy can be found at: https://www.dal.ca/dept/university_secretariat/policies/academic/fair-dealing-policy-html



Student Use of Course Materials

Course materials are designed for use as part of this course at Dalhousie University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as books, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law. Copying this course material for distribution (e.g. uploading to a commercial third-party website) may lead to a violation of Copyright law.

University of King's College:

Copyright and privacy: Recorded lectures or posted lecture notes remain the intellectual property of the instructor and guest lecturers. Reposting, sharing, further distributing or otherwise misusing them violates their privacy and copyright interests and is expressly prohibited without explicit permission. Strict privacy protections also apply. Provincial and federal laws restrict the dissemination of personal information about academic staff and students—including email addresses, phone numbers, residential information, images and videos. In light of all this, tutorials should not be recorded by students or screenshots taken without express permission.

Academic Rules and Regulations

This course is governed by the academic rules and regulations set forth in the University of King's College <u>Calendar</u>.

Academic Integrity

At the University of King's College and Dalhousie University, we are guided in all our work by the values of academic integrity: honesty, trust, fairness, responsibility, respect, and courage (The Center for Academic Integrity, 2021). As a student, you are required to demonstrate these values in all the work you do.

The notion of academic integrity is broad, as is the notion of plagiarism, and you are encouraged to read up on them here. But in essence, what both notions mean for this course is the following: Every assignment you complete for this course will be your own work and you will acknowledge sources of information and ideas when they are not your own. Failure to do so constitutes a serious academic offense and could result in academic penalty.

Important Notes on Generative Writing Tools:

- I. Generative writing tools like Chat GPT, Google Translate and QuillBot (etc.) are not permitted in King's classes, unless explicitly allowed by the course instructor.
- 2. If the instructor has explicitly sanctioned its usage, it is important for their students to remember that the information derived from generative writing tools is based on



- previously published materials. Therefore, using these tools without proper citation constitutes plagiarism. For information on how to cite the use of artificial intelligence, please see the Dal <u>Library's guidelines on how to cite artificial intelligence.</u>
- 3. Any assignment that is found to have used AI tools when they were not explicitly permitted by the course instructor will be considered as plagiarism and reported as an academic offense.

Academic integrity issues involving King's courses are normally dealt with by the Academic Integrity Officer (AIO) of the University of King's College.

Keeping academic term

Examination dates <u>cannot</u> be changed to accommodate travel plans, work arrangements and personal activities. It is the obligation of each student to ensure that his or her travel arrangements or other activities do not conflict with in-class activities or the end-of-term examinations. The keeping of academic term is the responsibility of every student.

Students' responsibilities on evaluations

It is the student's responsibility to keep his or her assignments and evaluations to protect themselves against possible lost grades or in case of grade revision (the original marked copy of the assignment will be required in such a case).

Codes of conduct

Everyone at Dalhousie and King's is expected to treat others with dignity and respect. Two Codes of Conduct are relevant to students enrolled in Joint Dalhousie/King's classes:

- (I) The University of King's College Code of Conduct as contained in the Yellow Book (read more here).
- (2) The Dalhousie Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution (read more here).

Disputes over academic performance and assessment will be dealt with according to the Academic Regulations of University of King's College. For more information, see the King's calendar.

Diversity and Inclusion—Culture of Respect

The University of King's College is committed to a welcoming and respectful working and learning environment that is free from harassment and discrimination. We encourage open dialogue; to that end, members of the class are expected to refrain from speaking or behaving in ways that are harmful to others, through racism, homophobia, sexism, or other derogatory treatment based on characteristics protected under the Nova Scotia Human Rights Act. The King's College Code of Conduct (Yellow Book) provides specifics. Students are also directed to Dalhousie's Strategy on Diversity and Inclusiveness.



The full list of characteristics protected under the Nova Scotia Human Rights Act can be found here.

King's-Specific Student Supports

Students often look for support related to accommodations, sexual health and safety, mental health or other life circumstances. Please visit the Student Support Directory on the King's website for a list of some of the King's-specific supports available, including the referral and contact process for each person or program.

University Policies and Programs

Important Dates in the Academic Year (including add/drop dates)

Dalhousie Grading Practices Policy

Grade Appeal Process

Scent-Free Program

Learning and support resources

Academic Support and Advising King's

Dalhousie

Accessibility and Accommodations

The <u>Student Accessibility Centre</u> provides King's students with accessibility and accommodations supports. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation.

If there are aspects of the design, instruction, and/or experiences of this course that result in barriers to your inclusion, please contact King's Accessibility Officer Michelle Mahoney (michelle.mahoney@ukings.ca) or the Centre (access@dal.ca).

Please note that our classroom may contain accessible furniture and equipment. It is important that these items remain in the classroom, undisturbed, so that students who require their use will be able to fully participate.

Health and Wellness

Student Health & Wellness Centre

On Track (helps you transition into university, and supports you through your first year at King's and Dalhousie and beyond): www.dal.ca/campus life/academic-support/On-track.html

<u>Dalhousie Multifaith Services</u> is a space where Dalhousie and King's students, staff, and faculty can address the basic questions of meaning and purpose in their lives—no matter what their faith, philosophy or doubt may be. Dalhousie Multifaith Services provides chaplains for Buddhist, Anglican, Baptist, Lutheran, Pentecostal, United Church of Canada, Baha'i, Hindu, Jewish, Roman Catholic, Sunni Muslim and Unitarian Universalist faith traditions. The University of King's College Chaplain, Fr Ranall Ingalls, whose office is in the King's A&A Building, is a Christian priest in the



Anglican tradition, but he is at King's for everyone and not only Anglicans or Christians. Read about the King's Chapel here.

Student Support, Advising and Advocacy

Dalhousie's Indigenous Student Centre

The <u>Elders-in-Residence</u> program provides students with access to First Nations elders for guidance, counsel and support. Visit the office in the Indigenous Student Centre or contact the program at <u>elders@dal.ca</u> or 902-494-6803.

Black Student Advising

International Centre and academic advising for International Students

South House Sexual and Gender Resource Centre

LGBTQ2SIA+ Collaborative

Dalhousie Student Advocacy Service (DSAS)

Dalhousie Ombudsperson

Human Rights and Equity Services

Writing Centre and Study Skills:

If you need extra help with your writing, you can contact the Writing Centre in the Killam Library. A Study Skills Programme is offered by Academic Support (Killam Library: 494-3077). Study Skills/Tutoring: www.dal.ca/campus life/academic-support/study-skills-and-tutoring.html

Fair Dealing and Copyright Guidelines:

The <u>Dalhousie University Fair Dealing Policy</u> provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at King's College and Dalhousie.

Libraries:

King's library
Dalhousie libraries