

**Ministry of Training,  
Colleges and Universities**

**Ministère de la Formation  
et des Collèges et Universités**

Deputy Minister

Sous-ministre

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**DM Memo**

2013-14: UF15/2013-14: CF09

**Memorandum To:**

Executive Heads of Provincially Assisted Universities,  
Presidents of Colleges of Applied Arts and Technology  
President and CEO of Colleges Ontario  
President and CEO of Council of Ontario Universities

**From:**

Deborah Newman  
Deputy Minister

**Date:**

December 10, 2013

**Subject:**

Confidential – Do not Distribute  
“Ontario Online”: Centre of Excellence in technology enabled  
learning

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Over the past few years, the Ministry has consulted broadly with students, institutions and other stakeholders on moving forward with an online initiative. In these consultations, the Ministry has always found widespread support for the idea that technology-enabled learning has great potential to improve the student experience as well as to position Ontario at the forefront of excellence and innovation in postsecondary education.

At the consultation roundtables held this summer on online learning, the Ministry presented its vision and priorities. I am now pleased to provide you with more information on the Ministry's ~~plan for the establishment of “Ontario Online”~~, a collaborative Centre of Excellence in technology-enabled learning that will be governed and operated by colleges and universities. The Centre will leverage existing strengths in the system and allow institutions to share best practices in pedagogy and online resources, as well as offer state-of-the-art scalable courses that are recognized for credit across multiple institutions. Over time, it is anticipated that this will result in improved access to quality online education, increased productivity gains through collaboration, and an enhanced national and international profile for Ontario in the online learning landscape.

To support the establishment of the new Centre, the Ministry has committed to providing up to \$42 million in start-up funding through to 2015-16. An outline of the conceptual model for the Centre is enclosed.

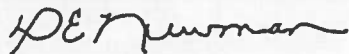
For 2013-14, the Ministry will contribute up to \$12 million. Of this funding, approximately \$1 million will be provided to support key preparation activities leading to incorporation of the Centre. A sector steering committee composed of representatives from colleges and universities, OntarioLearn, Ontario Universities Online, and Contact North will be established to oversee implementation. The steering committee will develop an implementation plan, as well as a long-term business plan. While work is underway to establish an organization, approximately \$8.5 million of the 2013-14 funding will be allocated to a Shared Online Course Fund. The guidelines for this fund are enclosed.

As you know, the remaining \$2.5 million has already been allocated to online learning projects through the Productivity and Innovation Fund.

I would ask that you keep all of this information confidential with respect to the details on the development of the Centre and associated funding until the Ministry has announced Ontario Online publicly.

I would like to thank you again for your commitment and continued collaboration as we work together to implement "Ontario Online" and transform Ontario's postsecondary education system.

Sincerely,



Deborah Newman  
Deputy Minister

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Attachments

# “Ontario Online”

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Establishing a Centre of Excellence  
in technology-enabled learning

Conceptual Model

December 2013

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Ministry of Training, Colleges and Universities

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## 1. Structural Model

“Ontario Online” will achieve its objectives and add value through three inter-related hubs of activity: a Knowledge Hub, a Course Hub, and a Support Hub. See Appendix A for a visual depiction of the model.

### Course Hub

This hub will coordinate the delivery of shared online courses within the university and college sectors, and across sectors where appropriate. Shared course offerings, a key feature of “Ontario Online”, refer to a system in which students from multiple institutions enrol together in the same course and each student receives credit at his or her home institution. For the student enrolling in the course and receiving credit, the process should be seamless, regardless of which institution is offering the course.

The Course Hub will allow institutions to post in one central location their current online offerings and add value by promoting the creation of new/redesigned courses, expanding student access and improving the efficiency of course delivery through greater collaboration. These shared courses will raise the bar in technology-enabled learning by offering the best in online technology and pedagogy, while at the same time maximizing scale and the mutual recognition of academic credit.

Such an approach will:

- Benefit students across the province through access to exemplary courses.
- Increase student flexibility and choice through a greater variety of courses, more flexible starting dates, and pre-approved credit recognition.
- Maximize scale while minimizing duplication.
- Keep low enrolment courses financially sustainable.
- Allow institutions to post existing online courses through the Centre (clearly identifying credit recognition and transfer opportunities for other institutions).
- Provide a foundation for Ontario to compete globally in the national and international market for online learning.

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The hub will also develop and monitor standards for the delivery of shared courses and, with support from the Ontario Council of Articulation and Transfer (ONCAT), for credit recognition. Delivery standards would build on existing best practices and would address the pedagogy used in course delivery, not the academic content of the course. Credit recognition standards would promote the goal of universal recognition of high-enrolment and foundational courses, with online bridging units offered where necessary.

### Knowledge Hub

This hub will generate and disseminate best practices, research, and data covering the full range of technology-enabled learning, using courses offered through the Course Hub as a living laboratory for research and innovation. Key elements will include the development of a research agenda on technology-enabled learning, a data collection strategy, and the facilitation of communities of practice among faculty, educational developers, instructional designers, and others. Over time, the knowledge gained and

disseminated will inform the acceptable practices and norms of online education, ensuring that students receive the best learning experience regardless of where a course is offered.

### Support Hub

This hub will offer support for students, instructors, and institutions while reducing costs by facilitating collaboration on tools, services and technology. Key elements will include a suite of student supports; an online portal for students, instructors, and researchers providing access to information, resources and online courses; the consolidation of resources and materials used in course and instructor development; oversight of technology necessary for the provision "Ontario Online" activities; investigation of Ontario-wide technology licenses, and curation of open educational resources.

## **2. Governance Model**

"Ontario Online" will be incorporated as a not-for-profit corporation with all publicly assisted colleges and universities eligible to participate as legal members. It will be governed by a Board of Directors composed of senior administrators from the college and university sectors, experts in online learning, and students.

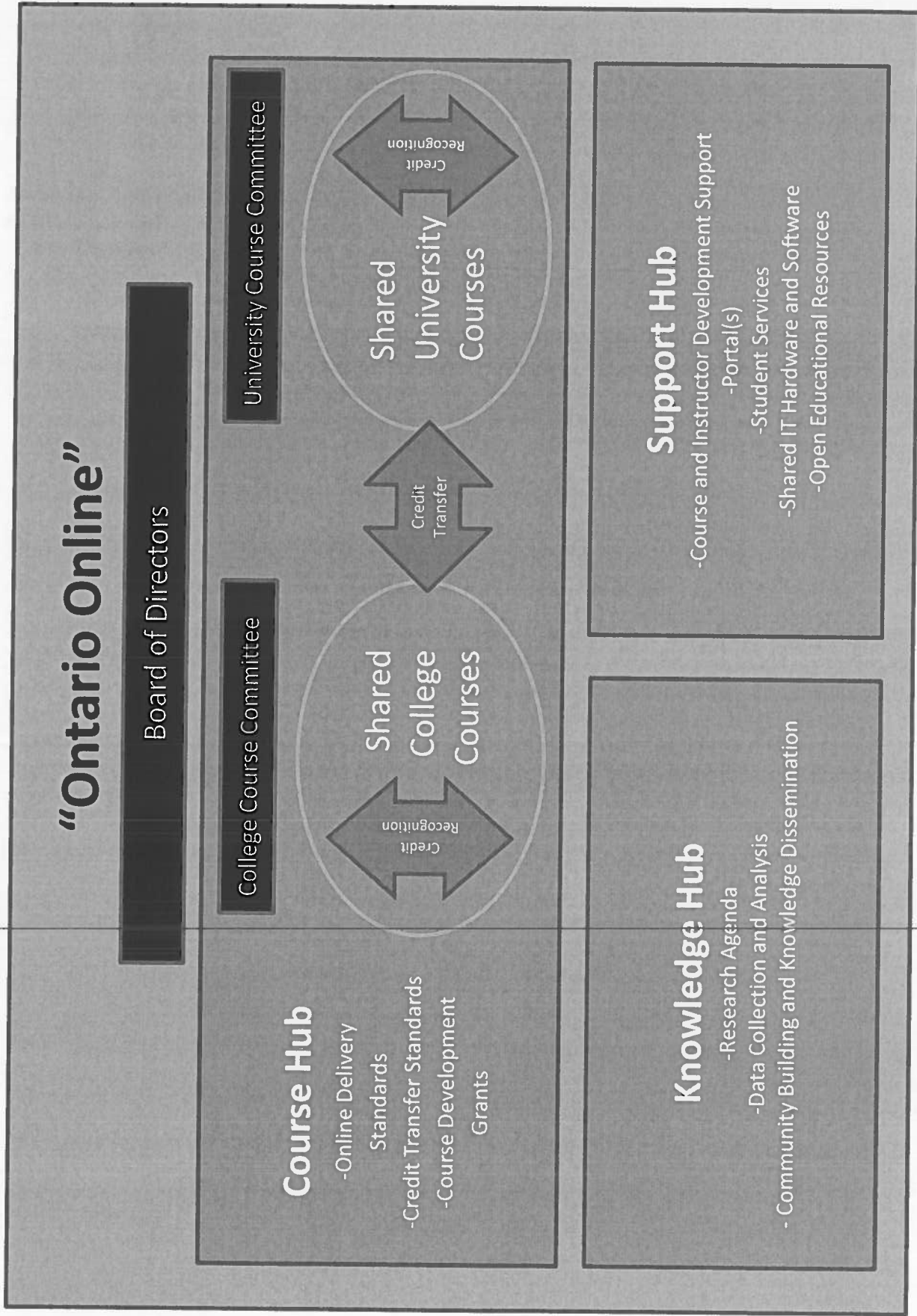
In recognizing the unique differences between the sectors, the model allows for sector autonomy over course offerings. The Ministry envisions a university course committee and a college course committee that will both be situated inside the Course Hub under the broader joint governance structure (see Appendix A for structural map). The Board of Directors will delegate authority for overseeing shared courses to these committees, including details of the sharing process such as course allocation and revenue sharing.

Course committees will be responsible for:

- Devising and administering a system for selecting which courses will be offered and by which institution.
- Working with the Ontario Council on Articulation and Transfer (ONCAT) to facilitate a process of credit recognition between multiple institutions.
- Maximizing scale and minimizing duplication of courses.
- Determining an acceptable, sustainable financial revenue-sharing arrangement.

The expectation is that the two committees will work together to maximize credit recognition and transfer, and where appropriate, find opportunities to offer courses recognized across the college and university sector.

Appendix A: Visual Depiction of the "Ontario Online" Model





# Shared Online Course Fund

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## Guidelines

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December 2013

Ministry of Training, Colleges and Universities

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## OBJECTIVE

Among the primary functions of the "Ontario Online" Centre of Excellence in technology-enabled learning is the offering of scalable, high-quality online courses by participating institutions that are broadly recognized for credit within each sector and across sectors where possible.

To support this activity, the Ministry has dedicated a one-time funding envelope of up to \$8.5 million to the college and university sectors (as part of the \$12 million dedicated in 2013-14 to the "Ontario Online" Initiative). The purpose of this fund is to allow participating institutions to develop or redesign a number of scalable, shared online courses that will eventually form part of a suite of flagship courses ready to be offered by participating institutions through "Ontario Online" by 2015-16. Some funding is also available for directly related activities and associated key projects (see Eligible Expenditures below).

## ELIGIBLE EXPENDITURES

Up to \$8.5 million in funding will be divided equally between the sectors and may be used for:

1. Shared Course Development or Redesign: A one-time allocation of \$75,000 will be provided for each shared course approved for development/redesign.

Courses designed for high enrolment are the priority, as these courses have the greatest potential to be offered at scale, thus benefiting the greatest number of students while leading to increased productivity over time. While the emphasis will be on introductory or foundational courses, a limited number of other courses may be included if it can be demonstrated that they advance the goals of "Ontario Online". For instance:

- French-language courses that are not highly scalable but are necessary to bring a wide range of online courses to students across the province.
- Low-enrolment courses that could be financially sustained through access to a wider market of students.

2. Projects Related to Shared Course Operations: Each sector may choose up to three projects directly related to operationalizing shared online courses (e.g. identifying systems for maximum credit recognition, optimizing cost sharing, or developing shared delivery standards). Projects selected for funding will further the objectives of "Ontario Online". A one-time combined allocation of up to \$450,000 will be provided for approved projects.
3. Administrative Overhead: Each sector may request up to 5% of overall funding to cover costs related to coordinating the proposal, funding, and reporting processes.

Sectors should each request no more than \$4.25 million in total for course development and related projects.



## **SECTOR PROPOSALS**

The Ministry is asking each sector, through a lead institution or relevant association such as Colleges Ontario or OntarioLearn and the Council of Ontario Universities (the "lead organizations"), to submit one proposal on behalf of the sector, as well as coordinate the mid-term and final report for each approved course and project.

In order to meet the objective of the fund, each lead organization will coordinate the development of a proposal that:

1. Includes as many eligible institutions as possible.
2. Develops courses that maximize credit recognition, identifying institutions that have tentatively committed to recognizing the course for credit pending necessary approvals. Courses should also include evidence of well-developed pedagogy to create an exceptional student learning experience. No duplicates will be selected for funding. A Statement of Design Intent is required for each course. (See Appendix A, Part Two.)
3. Provides descriptions of any proposed projects related to Shared Course Operations. (See Appendix A, Part One.)
4. Identifies administrative overhead needs. (See Appendix A, Part One.)

The Ministry asks that the lead organizations take into account the strength and capacity of participating institutions to develop and offer a particular course(s) or undertake an activity.

## **ALLOCATION AND REPORTING PROCESS**

Proposals are due to the Ministry by **January 16, 2014**.

Upon receipt of both proposals, the Ministry will provide them to the Minister of Training, Colleges and Universities, who will make final funding decisions.

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Formal Ministry approval for each sector proposal will be signaled through the delivery of an approval letter to the lead organizations. At that time, a Transfer Payment Agreement that meets the requirements of the government's Transfer Payment Accountability Directive will be established with the lead organizations.

Funding will flow as a single, one-time payment at the commencement of the Transfer Payment Agreement signed with each lead organization.

Evidence of course and projects completion must be submitted to the Ministry by September 1, 2014.

Details of the mid-term and final reporting requirements will be communicated and included as part of the Transfer Payment Agreement. (See Appendix C.)

**ELIGIBLE INSTITUTIONS**

Recognizing the role outlined above for the lead organization to establish a process, the publicly assisted Ontario colleges and universities identified in Appendix B are eligible to be part of sector proposals for the Shared Online Course Fund.

**APPENDIX A  
APPLICATION FORM FOR PROPOSALS  
Shared Online Course Fund Proposal Form**

**PART 1 – OVERVIEW**

**Sector Represented**

- Ontario Colleges  
 Ontario Universities

**Lead Organization & Contact Information**

Organization:
Contact Name:
Title:
Telephone:
Email:

**Participating Institutions** – List all institutions participating in this proposal and the title of the shared online courses each institution proposes to develop/redesign and offer.

	Institution	Proposed Courses (Name and Level)	Total Number of Courses
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
		<b>Total:</b>	

Guidelines and Requirements for the Shared Online Course Fund 2013-14

**Other Eligible Projects** – The Ministry will consider up to three proposals for collaborative projects directly related to online course sharing, to be funded in lieu of additional shared courses. Use this space to describe in detail any such projects, including project leaders, goals, methodology, products, budget and timeline.

**Administrative Overhead** – Lead organizations may request up to 5% of overall funding to cover costs related to coordinating the proposal, funding, and reporting processes. Use this space to detail any such request.

**PART 2 – STATEMENT OF DESIGN INTENT**

*NOTE: Complete and submit a separate Statement of Design Intent for each shared online course listed in PART 1.*

**1. Institution and Contact Information**

Institution:
Contact Name:
Title:
Telephone:
Email:

**2. Course Information** – Provide the course title and summarize the proposed learning outcomes. Note whether the proposal is to develop a new online course or to redesign an existing online course.

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**3. Description of Course Pedagogy** – Describe the evidence-based pedagogical foundation of the course and how it plans to make use of best practices in online learning. Describe any proposed tools or technology that will be harnessed to facilitate learning.

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**4. Preparation for Scale** – Describe how the course could be scaled to accommodate a large number of students while maintaining quality.

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**5. Development Expertise** – Identify those individuals who will lead the development (and the teaching if known) of the course. Describe any relevant expertise in both the subject matter and in online pedagogy.

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**6. Credit Recognition** – List any institutions that have tentatively committed to recognizing the course for credit by 2015-16, pending necessary approvals.

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**7. Acknowledgment of Intent**

- The developing institution acknowledges that funds received through the Shared Online Course Fund are for the express purpose of the development or redesign of shared online courses, and that these shared courses are intended to be offered by the developing institution through "Ontario Online", pending incorporation and agreement on a final model.

**Applicant Signature** – Course Development Proposal must be approved by the President/Executive Head or Designate of the institution and must include his/her signature.

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Signature

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Name and Title

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Date

**APPENDIX B  
ELIGIBLE RECIPIENTS**

Algoma University  
Brock University  
Carleton University  
Lakehead University  
Laurentian University  
McMaster University  
Nipissing University  
OCAD University  
Queen's University  
Ryerson University  
Trent University  
University of Guelph  
University of Ontario Institute of  
Technology  
University of Ottawa  
University of Toronto  
University of Waterloo  
University of Western Ontario  
University of Windsor  
Wilfrid Laurier University  
York University

Algonquin College  
Collège Boréal  
Cambrian College  
Canadore College  
Centennial College  
Conestoga College  
Confederation College  
Durham College  
Fanshawe College  
George Brown College  
Georgian College  
Humber College  
La Cité collégiale  
Lambton College  
Loyalist College  
Mohawk College  
Niagara College  
Northern College  
Sault College  
Seneca College  
Sheridan College  
S.S. Fleming College  
St. Clair College  
St. Lawrence College

**APPENDIX C  
REPORTING REQUIREMENTS**

**MID-TERM STATUS REPORT FORM**

*The mid-term report is to be submitted by the lead organization to the Ministry by **March 14, 2014**. One status report should be submitted for each course or project funded through the Shared Online Course Fund.*

<b>Institution</b>	
<b>Course or Project Name</b>	
<b>Lead Contact</b>	

1. Describe the status of the course or project.

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2. Are activities on schedule for completion for September 1, 2014? (Select one only)

- Yes  
 No

If No, provide outline of risk mitigation strategy and corrective measures.

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\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Date



**FINAL REPORT FORM  
SEPTEMBER 1, 2014**

*Final reports are to be submitted by the lead organization to the Ministry by September 1, 2014. One final report should be submitted for each course or project funded through the Shared Online Course Fund.*

<b>Institution</b>	
<b>Course Name</b>	
<b>Lead Contact</b>	

Fill in either relevant box below:

**Description of Completed Course** – Describe how the completed course achieves what was set out in the original statement of design intent. This should include the pedagogical foundation, best practices in online learning, preparation for scale, and progress on credit recognition. Attach a course syllabus to this report.

**Description of Completed Project** – Describe how the completed project achieves what was set out in the original proposal including a statement of outcomes and any next steps. Attach a copy of the project report.

**Confirmation of Completion**

- The institution attests that the course has been completed according to the statement of design intent.
- The institution attests that the project has been completed according to the statement of design intent.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Date

THE UNIVERSITY OF CHICAGO  
PHYSICS DEPARTMENT

PHYSICS 551  
PROBLEM SET 1  
DUE DATE: 10/10/1999

1. A particle of mass  $m$  moves in a one-dimensional potential  $V(x) = \frac{1}{2}kx^2$ . The particle is in the ground state of the harmonic oscillator. Calculate the expectation value of the momentum  $\langle p \rangle$  and the uncertainty in momentum  $\Delta p$ .

2. A particle of mass  $m$  moves in a one-dimensional potential  $V(x) = \frac{1}{2}kx^2 + \frac{1}{4}bx^4$ . Calculate the energy levels to first order in  $b$ .

3. A particle of mass  $m$  moves in a one-dimensional potential  $V(x) = \frac{1}{2}kx^2 + \frac{1}{4}bx^4 + \frac{1}{6}cx^6$ . Calculate the energy levels to second order in  $b$  and first order in  $c$ .