C-ENGINE は産と学の交流をとおして
イノベーションを創出できる人材育成をめざす大学・企業のコンソーシアムです

学生が身につけるべきトランスファラブルスキル RISE

トランスファラブルスキルRISEは、研究者として自立するためのスキルセットであり、大学や企業など、どこにおいても有効に活用されます
これは研究を通じて培われ、再発見・意識されることで、今後のキャリアパスに活かすことができます

Research governance and organisation 研究遂行に関するスキル	Intelligence and knowledge 知識・知的能力	Social relationship 他者や社会との関係に係るスキル	Effectiveness 自己開発に係るスキル
R-1 安全、コンプライアンス意識および情報管理技術 ・健康、安全、法令遵守・研究倫理等の重要性が 理解できる ・研究者としての情報管理、技術、知的財産権、秘密保持などの契約関係について理解し、高い意識を持つことができる	**I-1 理論的知識、情報収集力 数学的応用力 語学力・文章読解力** ・課題解決に必要な基礎知識を有し、必要な情報を収集することができる ・数理科学の知識をベースに数値解析できる	**S-1 チームワーク力、他者との協働** ・チームの戦略・目標、役割分担を理解し、協働できる ・他のメンバーの強み・弱みを理解し、意思疎通を図ることができる	**E-1 研究への取り組み姿勢** ・強みと弱みを自覚して、研究に活かすことができる ・熱意、持続力・忍耐力、責任感、主体性、専門家としての誠実さを持って行動できる
R-2 研究の基本的な進め方 ・研究の目的、背景を理解して、 課題設定を行い、研究を取り巻く諸事の要因に配慮しながら研究計画を立てることができる	**I-2 分析/統合力、論理的思考力 問題解決力** ・課題解決力、論理的思考、分析・統合力等を駆使して研究・開発を遂行できる	**S-2 コミュニケーション能力** ・研究遂行にあたって研究室内外および異分野の関係者の理解を得ることができる ・様々な情報伝達手段を用いて十分な議論ができる	**E-2 自己管理、時間管理** ・目的を達成するために明確な研究計画を立て、効果的な時間管理を行える ・ストレスマネジメントとワークライフバランスを考慮して自己管理ができる
R-3 資金管理・調達 ・研究を進める際、および、事業を行うにあたっての資金管理・調達の仕組み、実態の理解ができる	**I-3 洞察力、探究心 議論展開力** ・自らの経験を活かし、新しいアイデアと裏付けとなる根拠を提示して、社会にインパクトを与える、画期的／創造的な議論ができる	**S-3 研究結果の社会への還元** ・研究結果を社会に実装するプロセスを理解できる ・社会的利益を生み出す可能性のある新製品開発や既存の研究の新しい活用法について考案・発案することができる ・グローバル展開の重要性が理解できる	**E-3 キャリア開発、専門能力開発** ・専門的能力の持続的開発が必要であることを認識している ・経験を分析的に振り返り、自己改革のサイクルを追求する ・キャリアプランを描くことができる ・幅広い研究コミュニティ内で、信頼関係に基づく協力的なネットワークを構築する

RISEの各項目とその内容は、VitaeのResearcher Development Frameworkを参考に作成しました

一般社団法人産学協働イノベーション人材育成協議会（C-ENGINE）

C-ENGINE
Collaborative Education for Next-Generation INnovators & Exploration of Knowledge Intersections

RISE needed for a graduate student to become an independent researcher

RiSE is a good set of transferable and portable skills that you have deliberately or inadvertently acquired through your research activity at university.
Why don't you identify and give examples of the skills to demonstrate and develop!

Research governance and organisation	Intelligence and knowledge	Social relationship	Effectiveness
R-1 Health and safety, Ethics, Leagal requirement and Confidentiality · Understands the importance of health, safety, legal, compliance, research ethics, etc. · Understands and has a high awareness as a researcher of information management technology, intellectual property rights, confidentiality, etc.	**I-1 Subject knowledge, Research methods, Information seeking and literacy, Languages and Academic literacy and numeracy** · Has, at least, core knowledge and basic understanding of key concepts, issues and history of thought · Understands relevant research methodologies and techniques and their appropriate application with own research area · Identifies and accesses appropriate bibliographical resources, archives and other resources of relevant information · Designs and executes systems for acquisition and collation of information using IT · Has excellent knowledge of languages appropriate for research · Able to understand, interpret, create and communicate within academic context · Understands analytical or statistical procedures in related disciplines/research areas and continues to develop mathematical ability	**S-1 Working with others, Collaboration** · Understands own behaviors and impact on other team members, recognises the strengths and weaknesses of team members and works effectively to achieve mutual goals, and is sensitive to intentions, needs and positions of team members · Builds collaborative relationships to co-produce research outputs, actively participates in and contributes to collaborations and external relationships, and works in multi- or cross- disciplinary contexts and thinks comparatively	**E-1 Personal qualities** · Has heightened awareness of own strengths and weaknesses · Maintains enthusiasm for own research, perseveres in the face of obstacles, acts with professional integrity and honesty, is confident of own skills and ideas in the face of strong challenge, and takes complete responsibility for own project
R-2 Research management · Understands the purpose and background of the research, sets the research subject, and, considering the factors of the matters surrounding the research, makes a research plan	**I-2 Analysing, Synthesising, Critical thinking, Evaluating, and problem solving** · Has well developed analytical abilities with knowledge of a range of methods, willing to learn new ones · Critically synthesises new and complex information from diverse sources · Is capable of original, independent and critical thinking and makes sound and realistic judgments based on evidence · Assesses the quality, integrity and authenticity of primary and secondary research information/data · Formulates and applies solution to a range of research problems and effectively analyses and interprets research results	**S-2 Communication** · Actively engages in knowledge exchange and debate with colleagues between disciplines/research areas · Develops skills in a range of communication means using interactive technologies	**E-2 Self-management, Time management** · Manages own time effectively to complete research project · Maintains an acceptable work-life balance and manages pressure
R-3 Finance, funding and resources · Understands the processes for funding and evaluation of research, has broad awareness and knowledge of key relevant funding sources and grant application procedures, and recognises the significance of income and funding generation for own institution · Understands the basic principles of financial management, and has knowledge of required financial management systems	**I-3 Intellectual insight, Inquiring mind, Innovation, and Argument construction** · Demonstrates flexibility and open-mindness, identifies and asks useful, challenging questions · Creates ideas and opportunities by investigating/seeking information, and recognises new trends · Exercises critical judgement and thinking to create new and/or imaginative ways of understanding · Provides some evidence in support of ideas, structures arguments clearly and concisely, and produces convincing arguments to defend research theses	**S-3 Turning research results into commercial and/or social benefit** · Understands the process of commercial exploitation of research results · Creates ideas and identifies opportunities, develops ideas in an innovative manner, turns ideas into real ventures, and recognises potential for new products and novel applications of research for commercial and/or social benefit · Appreciates the importance of global business expansion	**E-3 Professional and career development** · Shows commitment to continuing professional development · Critically reflects on experiences and pursues a cycle of self-improvement · Forms credible career plans · Develops and maintains co-operative networks and working relationships within the institution and the wider research community

The items and contents of 'RISE' were described with reference to the 'Vitae Researcher Development Framework(www.vitae.ac.uk/rdf)' as the original source.   (20.FEB.2020 Ver01)